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(71) Applicant (for all designated States except US): **CORIXA CORPORATION** [US/US]; Suite 200, 1124 Columbia Street, Seattle, WA 98104 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **XU, Jiangchun** [US/US]; 15805 S.E. 43rd Place, Bellevue, WA 98006 (US). **LODES, Michael, J.** [US/US]; 9223-36th Avenue S.W., Seattle, WA 98126 (US). **SECRIST, Heather** [US/US]; 3844-35th Avenue W., Seattle, WA 98199 (US). **BENSON, Darin, R.** [US/US]; 723 N. 48th Street, Seattle, WA 98103 (US). **MEAGHER, Madeleine, Joy** [US/US]; 507 N.E. 71st, #1, Seattle, WA 98115 (US). **STOLK,**

John, A. [US/US]; 7436 Northeast 144th Place, Bothell, WA 98011 (US). **KING, Gordon, E.** [US/US]; 15716 First Avenue N.W., Shoreline, WA 98177 (US). **WANG, Tongtong** [US/US]; 8049 N.E. 28th Street, Medina, WA 98039 (US). **JIANG, Yuqiu** [CN/US]; 5001 South 232nd Street, Kent, WA 98032 (US).

(74) Agents: **POTTER, Jane, E., R.**; Seed Intellectual Property Law Group PLLC, Suite 6300, 701 Fifth Avenue, Seattle, WA 98104-7092 et al. (US).

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(54) Title: COMPOUNDS FOR IMMUNOTHERAPY AND DIAGNOSIS OF COLON CANCER AND METHODS FOR THEIR USE

(57) Abstract: Compositions and methods for the therapy and diagnosis of cancer, such as colon cancer, are disclosed. Compositions may comprise one or more colon tumor proteins, immunogenic portions thereof, or polynucleotides that encode such portions. Alternatively, a therapeutic composition may comprise an antigen presenting cell that expresses a colon tumor protein, or a T cell that is specific for cells expressing such a protein. Such compositions may be used, for example, for the prevention and treatment of diseases such as colon cancer. Diagnostic methods based on detecting a colon tumor protein, or mRNA encoding such a protein, in a sample are also provided.

COMPOUNDS FOR IMMUNOTHERAPY AND DIAGNOSIS OF COLON CANCER AND METHODS FOR THEIR USE

TECHNICAL FIELD

5 The present invention relates generally to therapy and diagnosis of cancer, such as colon cancer. The invention is more specifically related to polypeptides comprising at least a portion of a colon tumor protein, and to polynucleotides encoding such polypeptides. Such polypeptides and polynucleotides may be used in vaccines and pharmaceutical compositions for prevention and
10 treatment of colon cancer, and for the diagnosis and monitoring of such cancers.

BACKGROUND OF THE INVENTION

Cancer is a significant health problem throughout the world. Although advances have been made in detection and therapy of cancer, no vaccine or other universally successful method for prevention or treatment is currently available.
15 Current therapies, which are generally based on a combination of chemotherapy or surgery and radiation, continue to prove inadequate in many patients.

Colon cancer is the second most frequently diagnosed malignancy in the United States as well as the second most common cause of cancer death. An estimated 95,600 new cases of colon cancer will be diagnosed in 1998, with an
20 estimated 47,700 deaths. The five-year survival rate for patients with colorectal cancer detected in an early localized stage is 92%; unfortunately, only 37% of colorectal cancer is diagnosed at this stage. The survival rate drops to 64% if the cancer is allowed to spread to adjacent organs or lymph nodes, and to 7% in patients with distant metastases.

25 The prognosis of colon cancer is directly related to the degree of penetration of the tumor through the bowel wall and the presence or absence of nodal involvement, consequently, early detection and treatment are especially important. Currently, diagnosis is aided by the use of screening assays for fecal occult blood, sigmoidoscopy, colonoscopy and double contrast barium enemas. Treatment

regimens are determined by the type and stage of the cancer, and include surgery, radiation therapy and/or chemotherapy. Recurrence following surgery (the most common form of therapy) is a major problem and is often the ultimate cause of death. In spite of considerable research into therapies for the disease, colon cancer remains difficult to diagnose and treat. In spite of considerable research into therapies for these and other cancers, colon cancer remains difficult to diagnose and treat effectively. Accordingly, there is a need in the art for improved methods for detecting and treating such cancers. The present invention fulfills these needs and further provides other related advantages.

10 SUMMARY OF THE INVENTION

Briefly stated, the present invention provides compositions and methods for the diagnosis and therapy of cancer, such as colon cancer. In one aspect, the present invention provides polypeptides comprising at least a portion of a colon tumor protein, or a variant thereof. Certain portions and other variants are immunogenic, such that the ability of the variant to react with antigen-specific antisera is not substantially diminished. Within certain embodiments, the polypeptide comprises a sequence that is encoded by a polynucleotide sequence selected from the group consisting of: (a) sequences recited in SEQ ID NO: 1-121, 123-197, 205-630, 632-684, 686, 690-691 and 694-1081; (b) variants of a sequence recited in SEQ ID NO: 1-121, 123-197, 205-630 and 632-684, 686, 690-691 and 694-1081; and (c) complements of a sequence of (a) or (b).

The present invention further provides polynucleotides that encode a polypeptide as described above, or a portion thereof (such as a portion encoding at least 15 amino acid residues of a colon tumor protein), expression vectors comprising such polynucleotides and host cells transformed or transfected with such expression vectors.

Within other aspects, the present invention provides pharmaceutical compositions comprising a polypeptide or polynucleotide as described above and a physiologically acceptable carrier.

Within a related aspect of the present invention, vaccines are provided. Such vaccines comprise a polypeptide or polynucleotide as described above and an immunostimulant.

The present invention further provides pharmaceutical compositions that comprise: (a) an antibody or antigen-binding fragment thereof that specifically binds to a colon tumor protein; and (b) a physiologically acceptable carrier.

Within further aspects, the present invention provides pharmaceutical compositions comprising: (a) an antigen presenting cell that expresses a polypeptide as described above and (b) a pharmaceutically acceptable carrier or excipient. Antigen presenting cells include dendritic cells, macrophages, monocytes, fibroblasts and B cells.

Within related aspects, vaccines are provided that comprise: (a) an antigen presenting cell that expresses a polypeptide as described above and (b) an immunostimulant.

The present invention further provides, in other aspects, fusion proteins that comprise at least one polypeptide as described above, as well as polynucleotides encoding such fusion proteins.

Within related aspects, pharmaceutical compositions comprising a fusion protein, or a polynucleotide encoding a fusion protein, in combination with a physiologically acceptable carrier are provided.

Vaccines are further provided, within other aspects, that comprise a fusion protein, or a polynucleotide encoding a fusion protein, in combination with an immunostimulant.

Within further aspects, the present invention provides methods for inhibiting the development of a cancer in a patient, comprising administering to a patient a pharmaceutical composition or vaccine as recited above.

The present invention further provides, within other aspects, methods for removing tumor cells from a biological sample, comprising contacting a biological sample with T cells that specifically react with a colon tumor protein, wherein the step of contacting is performed under conditions and for a time sufficient to permit the removal of cells expressing the protein from the sample.

Within related aspects, methods are provided for inhibiting the development of a cancer in a patient, comprising administering to a patient a biological sample treated as described above.

Methods are further provided, within other aspects, for stimulating
5 and/or expanding T cells specific for a colon tumor protein, comprising contacting T cells with one or more of: (i) a polypeptide as described above; (ii) a polynucleotide encoding such a polypeptide; and/or (iii) an antigen presenting cell that expresses such a polypeptide; under conditions and for a time sufficient to permit the stimulation and/or expansion of T cells. Isolated T cell populations comprising T cells prepared
10 as described above are also provided.

Within further aspects, the present invention provides methods for inhibiting the development of a cancer in a patient, comprising administering to a patient an effective amount of a T cell population as described above.

The present invention further provides methods for inhibiting the
15 development of a cancer in a patient, comprising the steps of: (a) incubating CD4⁺ and/or CD8⁺ T cells isolated from a patient with one or more of: (i) a polypeptide comprising at least an immunogenic portion of a colon tumor protein; (ii) a polynucleotide encoding such a polypeptide; and (iii) an antigen-presenting cell that expresses such a polypeptide; and (b) administering to the patient an effective amount
20 of the proliferated T cells, and thereby inhibiting the development of a cancer in the patient. Proliferated cells may, but need not, be cloned prior to administration to the patient.

Within further aspects, the present invention provides methods for determining the presence or absence of a cancer in a patient, comprising: (a)
25 contacting a biological sample obtained from a patient with a binding agent that binds to a polypeptide as recited above; (b) detecting in the sample an amount of polypeptide that binds to the binding agent; and (c) comparing the amount of polypeptide with a predetermined cut-off value, and therefrom determining the presence or absence of a cancer in the patient. Within preferred embodiments, the
30 binding agent is an antibody, more preferably a monoclonal antibody. The cancer may be colon cancer.

The present invention also provides, within other aspects, methods for monitoring the progression of a cancer in a patient. Such methods comprise the steps of: (a) contacting a biological sample obtained from a patient at a first point in time with a binding agent that binds to a polypeptide as recited above; (b) detecting in the sample an amount of polypeptide that binds to the binding agent; (c) repeating steps (a) and (b) using a biological sample obtained from the patient at a subsequent point in time; and (d) comparing the amount of polypeptide detected in step (c) with the amount detected in step (b) and therefrom monitoring the progression of the cancer in the patient.

10 The present invention further provides, within other aspects, methods for determining the presence or absence of a cancer in a patient, comprising the steps of: (a) contacting a biological sample obtained from a patient with an oligonucleotide that hybridizes to a polynucleotide that encodes a colon tumor protein; (b) detecting in the sample a level of a polynucleotide, preferably mRNA, that hybridizes to the oligonucleotide; and (c) comparing the level of polynucleotide that hybridizes to the oligonucleotide with a predetermined cut-off value, and therefrom determining the presence or absence of a cancer in the patient. Within certain embodiments, the amount of mRNA is detected via polymerase chain reaction using, for example, at least one oligonucleotide primer that hybridizes to a polynucleotide encoding a polypeptide as recited above, or a complement of such a polynucleotide. Within other
15 20 embodiments, the amount of mRNA is detected using a hybridization technique, employing an oligonucleotide probe that hybridizes to a polynucleotide that encodes a polypeptide as recited above, or a complement of such a polynucleotide.

In related aspects, methods are provided for monitoring the progression of a cancer in a patient, comprising the steps of: (a) contacting a biological sample obtained from a patient with an oligonucleotide that hybridizes to a polynucleotide that encodes a colon tumor protein; (b) detecting in the sample an amount of a polynucleotide that hybridizes to the oligonucleotide; (c) repeating steps (a) and (b) using a biological sample obtained from the patient at a subsequent point in time; and
25 30 (d) comparing the amount of polynucleotide detected in step (c) with the amount

detected in step (b) and therefrom monitoring the progression of the cancer in the patient.

Within further aspects, the present invention provides antibodies, such as monoclonal antibodies, that bind to a polypeptide as described above, as well as
5 diagnostic kits comprising such antibodies. Diagnostic kits comprising one or more oligonucleotide probes or primers as described above are also provided.

These and other aspects of the present invention will become apparent upon reference to the following detailed description and attached figures. All references disclosed herein are hereby incorporated by reference in their entirety as if
10 each was incorporated individually.

SEQUENCE IDENTIFIERS

SEQ ID NO: 1 is a first determined cDNA sequence for Contig 1, showing homology to Neutrophil Gelatinase Associated Lipocalin.

SEQ ID NO: 2 is the determined cDNA sequence for Contig 2, showing no
15 significant homology to any known genes.

SEQ ID NO: 3 is the determined cDNA sequence for Contig 4, showing homology to Carcinoembryonic antigen.

SEQ ID NO: 4 is the determined cDNA sequence for Contig 5, showing homology to Carcinoembryonic antigen.

20 SEQ ID NO: 5 is the determined cDNA sequence for Contig 9, showing homology to Carcinoembryonic antigen.

SEQ ID NO: 6 is the determined cDNA sequence for Contig 52, showing homology to Carcinoembryonic antigen.

25 SEQ ID NO: 7 is the determined cDNA sequence for Contig 6, showing homology to Villin.

SEQ ID NO: 8 is the determined cDNA sequence for Contig 8, showing no significant homology to any known genes.

SEQ ID NO: 9 is the determined cDNA sequence for Contig 10, showing homology to Transforming Growth Factor (BIGH3).

SEQ ID NO: 10 is the determined cDNA sequence for Contig 19, showing homology to Transforming Growth Factor (BIGH3).

SEQ ID NO: 11 is the determined cDNA sequence for Contig 21, showing homology to Transforming Growth Factor (BIGH3).

5 SEQ ID NO: 12 is the determined cDNA sequence for Contig 11, showing homology to CO-029.

SEQ ID NO: 13 is the determined cDNA sequence for Contig 55, showing homology to CO-029.

10 SEQ ID NO: 14 is the determined cDNA sequence for Contig 12, showing homology to Chromosome 17, clone hRPC.1171_I_10, also referred to as C798P.

SEQ ID NO: 15 is the determined cDNA sequence for Contig 13, showing no significant homology to any known gene.

SEQ ID NO: 16 is the determined cDNA sequence for Contig 14, also referred to as 14261, showing no significant homology to any known gene.

15 SEQ ID NO: 17 is the determined cDNA sequence for Contig 15, showing homology to Ets-Related Transcription Factor (ERT).

SEQ ID NO: 18 is the determined cDNA sequence for Contig 16, showing homology to Chromosome 5, PAC clone 228g9 (LBNL H142).

20 SEQ ID NO: 19 is the determined cDNA sequence for Contig 24, showing homology to Chromosome 5, PAC clone 228g9 (LBNL H142).

SEQ ID NO: 20 is the determined cDNA sequence for Contig 17, showing homology to Cytokeratin.

SEQ ID NO: 21 is the determined cDNA sequence for Contig 18, showing homology to L1-Cadherin.

25 SEQ ID NO: 22 is the determined cDNA sequence for Contig 20, showing no significant homology to any known gene.

SEQ ID NO: 23 is the determined cDNA sequence for Contig 22, showing homology to Bumetanide-sensitive Na-K-Cl cotransporter (NKCC1).

30 SEQ ID NO: 24 is the determined cDNA sequence for Contig 23, showing no significant homology to any known gene.

SEQ ID NO: 25 is the determined cDNA sequence for Contig 25, showing homology to Macrophage Inflammatory Protein 3 alpha.

SEQ ID NO: 26 is the determined cDNA sequence for Contig 26, showing homology to Laminin.

5 SEQ ID NO: 27 is the determined cDNA sequence for Contig 48, showing homology to Laminin.

SEQ ID NO: 28 is the determined cDNA sequence for Contig 27, showing homology to Mytobularin (MTM1).

10 SEQ ID NO: 29 is the determined cDNA sequence for Contig 28, showing homology to Chromosome 16 BAC clone CIT987SK-A-363E6.

SEQ ID NO: 30 is the determined cDNA sequence for Contig 29, also referred to as C751P and 14247, showing no significant homology to any known gene, but partial homology to Rat GSK-3 β -interacting protein Axil homolog.

15 SEQ ID NO: 31 is the determined cDNA sequence for Contig 30, showing homology to Zinc Finger Transcription Factor (ZNF207).

SEQ ID NO: 32 is the determined cDNA sequence for Contig 31, showing no significant homology to any known gene, but partial homology to Mus musculus GOB-4 homolog.

20 SEQ ID NO: 33 is the determined cDNA sequence for Contig 35, showing no significant homology to any known gene, but partial homology to Mus musculus GOB-4 homolog.

SEQ ID NO: 34 is the determined cDNA sequence for Contig 32, showing no significant homology to any known gene.

25 SEQ ID NO: 35 is the determined cDNA sequence for Contig 34, showing homology to Desmoglein 2.

SEQ ID NO: 36 is the determined cDNA sequence for Contig 36, showing no significant homology to any known gene.

SEQ ID NO: 37 is the determined cDNA sequence for Contig 37, showing homology to Putative Transmembrane Protein.

30 SEQ ID NO: 38 is the determined cDNA sequence for Contig 38, also referred to as C796P and 14219, showing no significant homology to any known gene.

SEQ ID NO: 39 is the determined cDNA sequence for Contig 40, showing homology to Nonspecific Cross-reacting Antigen.

SEQ ID NO: 40 is the determined cDNA sequence for Contig 41, also referred to as C799P and 14308, showing no significant homology to any known gene.

5 SEQ ID NO: 41 is the determined cDNA sequence for Contig 42, also referred to as C794P and 14309, showing no significant homology to any known gene.

SEQ ID NO: 42 is the determined cDNA sequence for Contig 43, showing homology to Chromosome 1 specific transcript KIAA0487.

10 SEQ ID NO: 43 is the determined cDNA sequence for Contig 45, showing homology to hMCM2.

SEQ ID NO: 44 is the determined cDNA sequence for Contig 46, showing homology to ETS2.

SEQ ID NO: 45 is the determined cDNA sequence for Contig 49, showing homology to Pump-1.

15 SEQ ID NO: 46 is the determined cDNA sequence for Contig 50, also referred to as C792P and 18323, showing no significant homology to any known gene.

SEQ ID NO: 47 is the determined cDNA sequence for Contig 51, also referred to as C795P and 14317, showing no significant homology to any known gene.

20 SEQ ID NO: 48 is the determined cDNA sequence for 11092, showing no significant homology to any known gene.

SEQ ID NO: 49 is the determined cDNA sequence for 11093, showing no significant homology to any known gene.

SEQ ID NO: 50 is the determined cDNA sequence for 11094, showing homology Human Putative Enterocyte Differentiation Protein.

25 SEQ ID NO: 51 is the determined cDNA sequence for 11095, showing homology to Human Transcriptional Corepressor hKAP1/TIF1B mRNA.

SEQ ID NO: 52 is the determined cDNA sequence for 11096, showing no significant homology to any known gene.

30 SEQ ID NO: 53 is the determined cDNA sequence for 11097, showing homology to Human Nonspecific Antigen.

SEQ ID NO: 54 is the determined cDNA sequence for 11098, showing no significant homology to any known gene.

SEQ ID NO: 55 is the determined cDNA sequence for 11099, showing homology to Human Pancreatic Secretory Inhibitor (PST) mRNA.

5 SEQ ID NO: 56 is the determined cDNA sequence for 11186, showing homology to Human Pancreatic Secretory Inhibitor (PST) mRNA.

SEQ ID NO: 57 is the determined cDNA sequence for 11101, showing homology to Human Chromosome X.

10 SEQ ID NO: 58 is the determined cDNA sequence for 11102, showing homology to Human Chromosome X.

SEQ ID NO: 59 is the determined cDNA sequence for 11103, showing no significant homology to any known gene.

SEQ ID NO: 60 is the determined cDNA sequence for 11174, showing no significant homology to any known gene.

15 SEQ ID NO: 61 is the determined cDNA sequence for 11104, showing homology to Human mRNA for KIAA0154.

SEQ ID NO: 62 is the determined cDNA sequence for 11105, showing homology to Human Apurinic/Apyrimidinic Endonuclease (hap1)mRNA.

20 SEQ ID NO: 63 is the determined cDNA sequence for 11106, showing homology to Human Chromosome 12p13.

SEQ ID NO: 64 is the determined cDNA sequence for 11107, showing homology to Human 90 kDa Heat Shock Protein.

SEQ ID NO: 65 is the determined cDNA sequence for 11108, showing no significant homology to any known gene.

25 SEQ ID NO: 66 is the determined cDNA sequence for 11112, showing no significant homology to any known gene.

SEQ ID NO: 67 is the determined cDNA sequence for 11115, showing no significant homology to any known gene.

30 SEQ ID NO: 68 is the determined cDNA sequence for 11117, showing no significant homology to any known gene.

SEQ ID NO: 69 is the determined cDNA sequence for 11118, showing no significant homology to any known gene.

SEQ ID NO: 70 is the determined cDNA sequence for 11119, showing homology to Human Elongation Factor 1-alpha.

5 SEQ ID NO: 71 is the determined cDNA sequence for 11121, showing homology to Human Lamin B Receptor (LBR) mRNA.

SEQ ID NO: 72 is the determined cDNA sequence for 11122, showing homology to H. sapiens mRNA for Novel Glucocorticoid.

10 SEQ ID NO: 73 is the determined cDNA sequence for 11123, showing homology to H. sapiens mRNA for snRNP protein B.

SEQ ID NO: 74 is the determined cDNA sequence for 11124, showing homology to Human Cisplatin Resistance Associated Beta-protein.

SEQ ID NO: 75 is the determined cDNA sequence for 11127, showing homology to M. musculus Calumenin mRNA.

15 SEQ ID NO: 76 is the determined cDNA sequence for 11128, showing homology to Human ras-related small GTP binding protein.

SEQ ID NO: 77 is the determined cDNA sequence for 11130, showing homology to Human Cosmid U169d2.

20 SEQ ID NO: 78 is the determined cDNA sequence for 11131, showing homology to H. sapiens mRNA for protein homologous to Elongation 1-g.

SEQ ID NO: 79 is the determined cDNA sequence for 11134, showing no significant homology to any known gene.

SEQ ID NO: 80 is the determined cDNA sequence for 11135, showing homology to H. sapiens Nieman-Pick (NPC1) mRNA.

25 SEQ ID NO: 81 is the determined cDNA sequence for 11137, showing homology to H. sapiens mRNA for Niecin b-chain.

SEQ ID NO: 82 is the determined cDNA sequence for 11138, showing homology to Human Endogenous Retroviral Protease mRNA.

30 SEQ ID NO: 83 is the determined cDNA sequence for 11139, showing homology to H. sapiens mRNA for DMBT1 protein.

SEQ ID NO: 84 is the determined cDNA sequence for 11140, showing homology to H. sapiens ras GTPase activating-like protein.

SEQ ID NO: 85 is the determined cDNA sequence for 11143, showing homology to Human Acidic Ribosomal Phosphoprotein PO mRNA.

5 SEQ ID NO: 86 is the determined cDNA sequence for 11144, showing homology to H. sapiens U21 mRNA.

SEQ ID NO: 87 is the determined cDNA sequence for 11145, showing homology to Human GTP-binding protein.

10 SEQ ID NO: 88 is the determined cDNA sequence for 11148, showing homology to H. sapiens U21 mRNA.

SEQ ID NO: 89 is the determined cDNA sequence for 11151, showing no significant homology to any known gene.

SEQ ID NO: 90 is the determined cDNA sequence for 11154, showing no significant homology to any known gene.

15 SEQ ID NO: 91 is the determined cDNA sequence for 11156, showing homology to H. sapiens Ribosomal Protein L27.

SEQ ID NO: 92 is the determined cDNA sequence for 11157, showing homology to H. sapiens Ribosomal Protein L27.

20 SEQ ID NO: 93 is the determined cDNA sequence for 11158, showing no significant homology to any known gene.

SEQ ID NO: 94 is the determined cDNA sequence for 11162, showing homology to Ag-X antigen.

SEQ ID NO: 95 is the determined cDNA sequence for 11164, showing homology to H. sapiens mRNA for Signal Recognition Protein sub14.

25 SEQ ID NO: 96 is the determined cDNA sequence for 11165, showing homology to Human PAC 204e5/127h14.

SEQ ID NO: 97 is the determined cDNA sequence for 11166, showing homology to Human mRNA for KIAA0108.

30 SEQ ID NO: 98 is the determined cDNA sequence for 11167, showing homology to H. sapiens mRNA for Neutrophil Gelatinase assct. Lipocalin.

SEQ ID NO: 99 is the determined cDNA sequence for 11168, showing no significant homology to any known gene.

SEQ ID NO: 100 is the determined cDNA sequence for 11172, showing no significant homology to any known gene.

5 SEQ ID NO: 101 is the determined cDNA sequence for 11175, showing no significant homology to any known gene.

SEQ ID NO: 102 is the determined cDNA sequence for 11176, showing homology to Human maspin mRNA.

10 SEQ ID NO: 103 is the determined cDNA sequence for 11177, showing homology to Human Carcinoembryonic Antigen.

SEQ ID NO: 104 is the determined cDNA sequence for 11178, showing homology to Human A-Tubulin mRNA.

SEQ ID NO: 105 is the determined cDNA sequence for 11179, showing homology to Human mRNA for proton-ATPase-like protein.

15 SEQ ID NO: 106 is the determined cDNA sequence for 11180, showing homology to Human HepG2 3' region cDNA clone hmd.

SEQ ID NO: 107 is the determined cDNA sequence for 11182, showing homology to Human MHC homologous to Chicken B-Complex Protein.

20 SEQ ID NO: 108 is the determined cDNA sequence for 11183, showing homology to Human High Mobility Group Box (SSRP1) mRNA.

SEQ ID NO: 109 is the determined cDNA sequence for 11184, showing no significant homology to any known gene.

SEQ ID NO: 110 is the determined cDNA sequence for 11185, showing no significant homology to any known gene.

25 SEQ ID NO: 111 is the determined cDNA sequence for 11187, showing no significant homology to any known gene.

SEQ ID NO: 112 is the determined cDNA sequence for 11190, showing homology to Human Replication Protein A 70kDa.

30 SEQ ID NO: 113 is the determined cDNA sequence for Contig 47, also referred to as C797P, showing homology to Human Chromosome X clone bWXD342.

SEQ ID NO: 114 is the determined cDNA sequence for Contig 7, showing homology to Equilibrative Nucleoside Transporter 2 (ent2).

SEQ ID NO: 115 is the determined cDNA sequence for 14235.1, also referred to as C791P, showing homology to H. sapiens chromosome 21 derived BAC
5 containing ets-2 gene.

SEQ ID NO: 116 is the determined cDNA sequence for 14287.2, showing no significant homology to any known gene, but some degree of homology to Putative Transmembrane Protein.

SEQ ID NO: 117 is the determined cDNA sequence for 14233.1, also referred
10 to as Contig 48, showing no significant homology to any known gene.

SEQ ID NO: 118 is the determined cDNA sequence for 14298.2, also referred to as C793P, showing no significant homology to any known gene.

SEQ ID NO: 119 is the determined cDNA sequence for 14372, also referred to as Contig 44, showing no significant homology to any known gene.

15 SEQ ID NO: 120 is the determined cDNA sequence for 14295, showing homology to secreted cement gland protein XAG-2 homolog.

SEQ ID NO: 121 is the determined full-length cDNA sequence for a clone showing homology to Beta IG-H3.

SEQ ID NO: 122 is the predicted amino acid sequence for the clone of SEQ ID
20 NO: 121.

SEQ ID NO: 123 is a longer determined cDNA sequence for C751P.

SEQ ID NO: 124 is a longer determined cDNA sequence for C791P.

SEQ ID NO: 125 is a longer determined cDNA sequence for C792P.

SEQ ID NO: 126 is a longer determined cDNA sequence for C793P.

25 SEQ ID NO: 127 is a longer determined cDNA sequence for C794P.

SEQ ID NO: 128 is a longer determined cDNA sequence for C795P.

SEQ ID NO: 129 is a longer determined cDNA sequence for C796P.

SEQ ID NO: 130 is a longer determined cDNA sequence for C797P.

SEQ ID NO: 131 is a longer determined cDNA sequence for C798P.

30 SEQ ID NO: 132 is a longer determined cDNA sequence for C799P.

SEQ ID NO: 133 is a first partial determined cDNA sequence for CoSub-3 (also known as 23569).

SEQ ID NO: 134 is a second partial determined cDNA sequence for CoSub-3 (also known as 23569).

5 SEQ ID NO: 135 is a first partial determined cDNA sequence for CoSub-13 (also known as 23579).

SEQ ID NO: 136 is a second partial determined cDNA sequence for CoSub-13 (also known as 23579).

10 SEQ ID NO: 137 is the determined cDNA sequence for CoSub-17 (also known as 23583).

SEQ ID NO: 138 is the determined cDNA sequence for CoSub-19 (also known as 23585).

SEQ ID NO: 139 is the determined cDNA sequence for CoSub-22 (also known as 23714).

15 SEQ ID NO: 140 is the determined cDNA sequence for CoSub-23 (also known as 23715).

SEQ ID NO: 141 is the determined cDNA sequence for CoSub-26 (also known as 23717).

20 SEQ ID NO: 142 is the determined cDNA sequence for CoSub-33 (also known as 23724).

SEQ ID NO: 143 is the determined cDNA sequence for CoSub-34 (also known as 23725).

SEQ ID NO: 144 is the determined cDNA sequence for CoSub-35 (also known as 23726).

25 SEQ ID NO: 145 is the determined cDNA sequence for CoSub-37 (also known as 23728).

SEQ ID NO: 146 is the determined cDNA sequence for CoSub-39 (also known as 23730).

30 SEQ ID NO: 147 is the determined cDNA sequence for CoSub-42 (also known as 23766).

SEQ ID NO: 148 is the determined cDNA sequence for CoSub-44 (also known as 23768).

SEQ ID NO: 149 is the determined cDNA sequence for CoSub-47 (also known as 23771).

5 SEQ ID NO: 150 is the determined cDNA sequence for CoSub-54 (also known as 23778).

SEQ ID NO: 151 is the determined cDNA sequence for CoSub-55 (also known as 23779).

SEQ ID NO: 152 is the determined cDNA sequence for CT1 (also known as
10 24099).

SEQ ID NO: 153 is the determined cDNA sequence for CT2 (also known as 24100).

SEQ ID NO: 154 is the determined cDNA sequence for CT3 (also known as 24101).

15 SEQ ID NO: 155 is the determined cDNA sequence for CT6 (also known as 24104).

SEQ ID NO: 156 is the determined cDNA sequence for CT7 (also known as 24105).

SEQ ID NO: 157 is the determined cDNA sequence for CT12 (also known as
20 24110).

SEQ ID NO: 158 is the determined cDNA sequence for CT13 (also known as 24111).

SEQ ID NO: 159 is the determined cDNA sequence for CT14 (also known as 24112).

25 SEQ ID NO: 160 is the determined cDNA sequence for CT15 (also known as 24113).

SEQ ID NO: 161 is the determined cDNA sequence for CT17 (also known as 24115).

SEQ ID NO: 162 is the determined cDNA sequence for CT18 (also known as
30 24116).

SEQ ID NO: 163 is the determined cDNA sequence for CT22 (also known as 23848).

SEQ ID NO: 164 is the determined cDNA sequence for CT24 (also known as 23849).

5 SEQ ID NO: 165 is the determined cDNA sequence for CT31 (also known as 23854).

SEQ ID NO: 166 is the determined cDNA sequence for CT34 (also known as 23856).

10 SEQ ID NO: 167 is the determined cDNA sequence for CT37 (also known as 23859).

SEQ ID NO: 168 is the determined cDNA sequence for CT39 (also known as 23860).

SEQ ID NO: 169 is the determined cDNA sequence for CT40 (also known as 23861).

15 SEQ ID NO: 170 is the determined cDNA sequence for CT51 (also known as 24130).

SEQ ID NO: 171 is the determined cDNA sequence for CT53 (also known as 24132).

20 SEQ ID NO: 172 is the determined cDNA sequence for CT63 (also known as 24595).

SEQ ID NO: 173 is the determined cDNA sequence for CT88 (also known as 24608).

SEQ ID NO: 174 is the determined cDNA sequence for CT92 (also known as 24800).

25 SEQ ID NO: 175 is the determined cDNA sequence for CT94 (also known as 24802).

SEQ ID NO: 176 is the determined cDNA sequence for CT102 (also known as 24805).

30 SEQ ID NO: 177 is the determined cDNA sequence for CT103 (also known as 24806).

SEQ ID NO: 178 is the determined cDNA sequence for CT111 (also known as 25520).

SEQ ID NO: 179 is the determined cDNA sequence for CT118 (also known as 25522).

5 SEQ ID NO: 180 is the determined cDNA sequence for CT121 (also known as 25523).

SEQ ID NO: 181 is the determined cDNA sequence for CT126 (also known as 25527).

10 SEQ ID NO: 182 is the determined cDNA sequence for CT135 (also known as 25534).

SEQ ID NO: 183 is the determined cDNA sequence for CT140 (also known as 25537).

SEQ ID NO: 184 is the determined cDNA sequence for CT145 (also known as 25542).

15 SEQ ID NO: 185 is the determined cDNA sequence for CT147 (also known as 25543).

SEQ ID NO: 186 is the determined cDNA sequence for CT148 (also known as 25544).

20 SEQ ID NO: 187 is the determined cDNA sequence for CT502 (also known as 26420).

SEQ ID NO: 188 is the determined cDNA sequence for CT507 (also known as 26425).

SEQ ID NO: 189 is the determined cDNA sequence for CT521 (also known as 27366).

25 SEQ ID NO: 190 is the determined cDNA sequence for CT544 (also known as 27375).

SEQ ID NO: 191 is the determined cDNA sequence for CT577 (also known as 27385).

30 SEQ ID NO: 192 is the determined cDNA sequence for CT580 (also known as 27387).

SEQ ID NO: 193 is the determined cDNA sequence for CT594 (also known as 27540).

SEQ ID NO: 194 is the determined cDNA sequence for CT606 (also known as 27547).

5 SEQ ID NO: 195 is the determined cDNA sequence for CT607 (also known as 27548).

SEQ ID NO: 196 is the determined cDNA sequence for CT599 (also known as 27903).

10 SEQ ID NO: 197 is the determined cDNA sequence for CT632 (also known as 27922).

SEQ ID NO: 198 is the predicted amino acid sequence for CT502 (SEQ ID NO: 187).

SEQ ID NO: 199 is the predicted amino acid sequence for CT507 (SEQ ID NO: 188).

15 SEQ ID NO: 200 is the predicted amino acid sequence for CT521 (SEQ ID NO: 189).

SEQ ID NO: 201 is the predicted amino acid sequence for CT544 (SEQ ID NO: 190).

20 SEQ ID NO: 202 is the predicted amino acid sequence for CT606 (SEQ ID NO: 194).

SEQ ID NO: 203 is the predicted amino acid sequence for CT607 (SEQ ID NO: 195).

SEQ ID NO: 204 is the predicted amino acid sequence for CT632 (SEQ ID NO: 197).

25 SEQ ID NO: 205 is the determined cDNA sequence for clone 25244.

SEQ ID NO: 206 is the determined cDNA sequence for clone 25245.

SEQ ID NO: 207 is the determined cDNA sequence for clone 25246.

SEQ ID NO: 208 is the determined cDNA sequence for clone 25248.

SEQ ID NO: 209 is the determined cDNA sequence for clone 25249.

30 SEQ ID NO: 210 is the determined cDNA sequence for clone 25250.

SEQ ID NO: 211 is the determined cDNA sequence for clone 25251.

SEQ ID NO: 212 is the determined cDNA sequence for clone 25252.
SEQ ID NO: 213 is the determined cDNA sequence for clone 25253.
SEQ ID NO: 214 is the determined cDNA sequence for clone 25254.
SEQ ID NO: 215 is the determined cDNA sequence for clone 25255.
5 SEQ ID NO: 216 is the determined cDNA sequence for clone 25256.
SEQ ID NO: 217 is the determined cDNA sequence for clone 25257.
SEQ ID NO: 218 is the determined cDNA sequence for clone 25259.
SEQ ID NO: 219 is the determined cDNA sequence for clone 25260.
SEQ ID NO: 220 is the determined cDNA sequence for clone 25261.
10 SEQ ID NO: 221 is the determined cDNA sequence for clone 25262.
SEQ ID NO: 222 is the determined cDNA sequence for clone 25263.
SEQ ID NO: 223 is the determined cDNA sequence for clone 25264.
SEQ ID NO: 224 is the determined cDNA sequence for clone 25265.
SEQ ID NO: 225 is the determined cDNA sequence for clone 25266.
15 SEQ ID NO: 226 is the determined cDNA sequence for clone 25267.
SEQ ID NO: 227 is the determined cDNA sequence for clone 25268.
SEQ ID NO: 228 is the determined cDNA sequence for clone 25269.
SEQ ID NO: 229 is the determined cDNA sequence for clone 25271.
SEQ ID NO: 230 is the determined cDNA sequence for clone 25272.
20 SEQ ID NO: 231 is the determined cDNA sequence for clone 25273.
SEQ ID NO: 232 is the determined cDNA sequence for clone 25274.
SEQ ID NO: 233 is the determined cDNA sequence for clone 25275.
SEQ ID NO: 234 is the determined cDNA sequence for clone 25276.
SEQ ID NO: 235 is the determined cDNA sequence for clone 25277.
25 SEQ ID NO: 236 is the determined cDNA sequence for clone 25278.
SEQ ID NO: 237 is the determined cDNA sequence for clone 25280.
SEQ ID NO: 238 is the determined cDNA sequence for clone 25281.
SEQ ID NO: 239 is the determined cDNA sequence for clone 25282.
SEQ ID NO: 240 is the determined cDNA sequence for clone 25283.
30 SEQ ID NO: 241 is the determined cDNA sequence for clone 25284.
SEQ ID NO: 242 is the determined cDNA sequence for clone 25285.

SEQ ID NO: 243 is the determined cDNA sequence for clone 25286.
SEQ ID NO: 244 is the determined cDNA sequence for clone 25287.
SEQ ID NO: 245 is the determined cDNA sequence for clone 25288.
SEQ ID NO: 246 is the determined cDNA sequence for clone 25289.
5 SEQ ID NO: 247 is the determined cDNA sequence for clone 25290.
SEQ ID NO: 248 is the determined cDNA sequence for clone 25291.
SEQ ID NO: 249 is the determined cDNA sequence for clone 25292.
SEQ ID NO: 250 is the determined cDNA sequence for clone 25293.
SEQ ID NO: 251 is the determined cDNA sequence for clone 25294.
10 SEQ ID NO: 252 is the determined cDNA sequence for clone 25295.
SEQ ID NO: 253 is the determined cDNA sequence for clone 25296.
SEQ ID NO: 254 is the determined cDNA sequence for clone 25297.
SEQ ID NO: 255 is the determined cDNA sequence for clone 25418.
SEQ ID NO: 256 is the determined cDNA sequence for clone 25419.
15 SEQ ID NO: 257 is the determined cDNA sequence for clone 25420.
SEQ ID NO: 258 is the determined cDNA sequence for clone 25421.
SEQ ID NO: 259 is the determined cDNA sequence for clone 25422.
SEQ ID NO: 260 is the determined cDNA sequence for clone 25423.
SEQ ID NO: 261 is the determined cDNA sequence for clone 25424.
20 SEQ ID NO: 262 is the determined cDNA sequence for clone 25426.
SEQ ID NO: 263 is the determined cDNA sequence for clone 25427.
SEQ ID NO: 264 is the determined cDNA sequence for clone 25428.
SEQ ID NO: 265 is the determined cDNA sequence for clone 25429.
SEQ ID NO: 266 is the determined cDNA sequence for clone 25430.
25 SEQ ID NO: 267 is the determined cDNA sequence for clone 25431.
SEQ ID NO: 268 is the determined cDNA sequence for clone 25432.
SEQ ID NO: 269 is the determined cDNA sequence for clone 25433.
SEQ ID NO: 270 is the determined cDNA sequence for clone 25434.
SEQ ID NO: 271 is the determined cDNA sequence for clone 25435.
30 SEQ ID NO: 272 is the determined cDNA sequence for clone 25436.
SEQ ID NO: 273 is the determined cDNA sequence for clone 25437.

SEQ ID NO: 274 is the determined cDNA sequence for clone 25438.
SEQ ID NO: 275 is the determined cDNA sequence for clone 25439.
SEQ ID NO: 276 is the determined cDNA sequence for clone 25440.
SEQ ID NO: 277 is the determined cDNA sequence for clone 25441.
5 SEQ ID NO: 278 is the determined cDNA sequence for clone 25442.
SEQ ID NO: 279 is the determined cDNA sequence for clone 25443.
SEQ ID NO: 280 is the determined cDNA sequence for clone 25444.
SEQ ID NO: 281 is the determined cDNA sequence for clone 25445.
SEQ ID NO: 282 is the determined cDNA sequence for clone 25446.
10 SEQ ID NO: 283 is the determined cDNA sequence for clone 25447.
SEQ ID NO: 284 is the determined cDNA sequence for clone 25448.
SEQ ID NO: 285 is the determined cDNA sequence for clone 25844.
SEQ ID NO: 286 is the determined cDNA sequence for clone 25845.
SEQ ID NO: 287 is the determined cDNA sequence for clone 25846.
15 SEQ ID NO: 288 is the determined cDNA sequence for clone 25847.
SEQ ID NO: 289 is the determined cDNA sequence for clone 25848.
SEQ ID NO: 290 is the determined cDNA sequence for clone 25850.
SEQ ID NO: 291 is the determined cDNA sequence for clone 25851.
SEQ ID NO: 292 is the determined cDNA sequence for clone 25852.
20 SEQ ID NO: 293 is the determined cDNA sequence for clone 25853.
SEQ ID NO: 294 is the determined cDNA sequence for clone 25854.
SEQ ID NO: 295 is the determined cDNA sequence for clone 25855.
SEQ ID NO: 296 is the determined cDNA sequence for clone 25856.
SEQ ID NO: 297 is the determined cDNA sequence for clone 25857.
25 SEQ ID NO: 298 is the determined cDNA sequence for clone 25858.
SEQ ID NO: 299 is the determined cDNA sequence for clone 25859.
SEQ ID NO: 300 is the determined cDNA sequence for clone 25860.
SEQ ID NO: 301 is the determined cDNA sequence for clone 25861.
SEQ ID NO: 302 is the determined cDNA sequence for clone 25862.
30 SEQ ID NO: 303 is the determined cDNA sequence for clone 25863.
SEQ ID NO: 304 is the determined cDNA sequence for clone 25864.

SEQ ID NO: 305 is the determined cDNA sequence for clone 25865.
SEQ ID NO: 306 is the determined cDNA sequence for clone 25866.
SEQ ID NO: 307 is the determined cDNA sequence for clone 25867.
SEQ ID NO: 308 is the determined cDNA sequence for clone 25868.
5 SEQ ID NO: 309 is the determined cDNA sequence for clone 25869.
SEQ ID NO: 310 is the determined cDNA sequence for clone 25870.
SEQ ID NO: 311 is the determined cDNA sequence for clone 25871.
SEQ ID NO: 312 is the determined cDNA sequence for clone 25872.
SEQ ID NO: 313 is the determined cDNA sequence for clone 25873.
10 SEQ ID NO: 314 is the determined cDNA sequence for clone 25875.
SEQ ID NO: 315 is the determined cDNA sequence for clone 25876.
SEQ ID NO: 316 is the determined cDNA sequence for clone 25877.
SEQ ID NO: 317 is the determined cDNA sequence for clone 25878.
SEQ ID NO: 318 is the determined cDNA sequence for clone 25879.
15 SEQ ID NO: 319 is the determined cDNA sequence for clone 25880.
SEQ ID NO: 320 is the determined cDNA sequence for clone 25881.
SEQ ID NO: 321 is the determined cDNA sequence for clone 25882.
SEQ ID NO: 322 is the determined cDNA sequence for clone 25883.
SEQ ID NO: 323 is the determined cDNA sequence for clone 25884.
20 SEQ ID NO: 324 is the determined cDNA sequence for clone 25885.
SEQ ID NO: 325 is the determined cDNA sequence for clone 25886.
SEQ ID NO: 326 is the determined cDNA sequence for clone 25887.
SEQ ID NO: 327 is the determined cDNA sequence for clone 25888.
SEQ ID NO: 328 is the determined cDNA sequence for clone 25889.
25 SEQ ID NO: 329 is the determined cDNA sequence for clone 25890.
SEQ ID NO: 330 is the determined cDNA sequence for clone 25892.
SEQ ID NO: 331 is the determined cDNA sequence for clone 25894.
SEQ ID NO: 332 is the determined cDNA sequence for clone 25895.
SEQ ID NO: 333 is the determined cDNA sequence for clone 25896.
30 SEQ ID NO: 334 is the determined cDNA sequence for clone 25897.
SEQ ID NO: 335 is the determined cDNA sequence for clone 25899.

SEQ ID NO: 336 is the determined cDNA sequence for clone 25900.
SEQ ID NO: 337 is the determined cDNA sequence for clone 25901.
SEQ ID NO: 338 is the determined cDNA sequence for clone 25902.
SEQ ID NO: 339 is the determined cDNA sequence for clone 25903.
5 SEQ ID NO: 340 is the determined cDNA sequence for clone 25904.
SEQ ID NO: 341 is the determined cDNA sequence for clone 25906.
SEQ ID NO: 342 is the determined cDNA sequence for clone 25907.
SEQ ID NO: 343 is the determined cDNA sequence for clone 25908.
SEQ ID NO: 344 is the determined cDNA sequence for clone 25909.
10 SEQ ID NO: 345 is the determined cDNA sequence for clone 25910.
SEQ ID NO: 346 is the determined cDNA sequence for clone 25911.
SEQ ID NO: 347 is the determined cDNA sequence for clone 25912.
SEQ ID NO: 348 is the determined cDNA sequence for clone 25913.
SEQ ID NO: 349 is the determined cDNA sequence for clone 25914.
15 SEQ ID NO: 350 is the determined cDNA sequence for clone 25915.
SEQ ID NO: 351 is the determined cDNA sequence for clone 25916.
SEQ ID NO: 352 is the determined cDNA sequence for clone 25917.
SEQ ID NO: 353 is the determined cDNA sequence for clone 25918.
SEQ ID NO: 354 is the determined cDNA sequence for clone 25919.
20 SEQ ID NO: 355 is the determined cDNA sequence for clone 25920.
SEQ ID NO: 356 is the determined cDNA sequence for clone 25921.
SEQ ID NO: 357 is the determined cDNA sequence for clone 25922.
SEQ ID NO: 358 is the determined cDNA sequence for clone 25924.
SEQ ID NO: 359 is the determined cDNA sequence for clone 25925.
25 SEQ ID NO: 360 is the determined cDNA sequence for clone 25926.
SEQ ID NO: 361 is the determined cDNA sequence for clone 25927.
SEQ ID NO: 362 is the determined cDNA sequence for clone 25928.
SEQ ID NO: 363 is the determined cDNA sequence for clone 25929.
SEQ ID NO: 364 is the determined cDNA sequence for clone 25930.
30 SEQ ID NO: 365 is the determined cDNA sequence for clone 25931.
SEQ ID NO: 366 is the determined cDNA sequence for clone 25932.

SEQ ID NO: 367 is the determined cDNA sequence for clone 25933.
SEQ ID NO: 368 is the determined cDNA sequence for clone 25934.
SEQ ID NO: 369 is the determined cDNA sequence for clone 25935.
SEQ ID NO: 370 is the determined cDNA sequence for clone 25936.
5 SEQ ID NO: 371 is the determined cDNA sequence for clone 25939.
SEQ ID NO: 372 is the determined cDNA sequence for clone 32016.
SEQ ID NO: 373 is the determined cDNA sequence for clone 32021.
SEQ ID NO: 374 is the determined cDNA sequence for clone 31993.
SEQ ID NO: 375 is the determined cDNA sequence for clone 31997.
10 SEQ ID NO: 376 is the determined cDNA sequence for clone 31942.
SEQ ID NO: 377 is the determined cDNA sequence for clone 31937.
SEQ ID NO: 378 is the determined cDNA sequence for clone 31952.
SEQ ID NO: 379 is the determined cDNA sequence for clone 31992.
SEQ ID NO: 380 is the determined cDNA sequence for clone 31961.
15 SEQ ID NO: 381 is the determined cDNA sequence for clone 31964.
SEQ ID NO: 382 is the determined cDNA sequence for clone 32005.
SEQ ID NO: 383 is the determined cDNA sequence for clone 31980.
SEQ ID NO: 384 is the determined cDNA sequence for clone 31940.
SEQ ID NO: 385 is the determined cDNA sequence for clone 32004.
20 SEQ ID NO: 386 is the determined cDNA sequence for clone 31956.
SEQ ID NO: 387 is the determined cDNA sequence for clone 31934.
SEQ ID NO: 388 is the determined cDNA sequence for clone 31998.
SEQ ID NO: 389 is the determined cDNA sequence for clone 31973.
SEQ ID NO: 390 is the determined cDNA sequence for clone 31976.
25 SEQ ID NO: 391 is the determined cDNA sequence for clone 31988.
SEQ ID NO: 392 is the determined cDNA sequence for clone 31948.
SEQ ID NO: 393 is the determined cDNA sequence for clone 32013.
SEQ ID NO: 394 is the determined cDNA sequence for clone 31986.
SEQ ID NO: 395 is the determined cDNA sequence for clone 31954.
30 SEQ ID NO: 396 is the determined cDNA sequence for clone 31987.
SEQ ID NO: 397 is the determined cDNA sequence for clone 32029.

SEQ ID NO: 398 is the determined cDNA sequence for clone 32028.
SEQ ID NO: 399 is the determined cDNA sequence for clone 32012.
SEQ ID NO: 400 is the determined cDNA sequence for clone 31959.
SEQ ID NO: 401 is the determined cDNA sequence for clone 32027.
5 SEQ ID NO: 402 is the determined cDNA sequence for clone 31957.
SEQ ID NO: 403 is the determined cDNA sequence for clone 31950.
SEQ ID NO: 404 is the determined cDNA sequence for clone 32011.
SEQ ID NO: 405 is the determined cDNA sequence for clone 32022.
SEQ ID NO: 406 is the determined cDNA sequence for clone 32014.
10 SEQ ID NO: 407 is the determined cDNA sequence for clone 31963.
SEQ ID NO: 408 is the determined cDNA sequence for clone 31989.
SEQ ID NO: 409 is the determined cDNA sequence for clone 32015.
SEQ ID NO: 410 is the determined cDNA sequence for clone 32002.
SEQ ID NO: 411 is the determined cDNA sequence for clone 31939.
15 SEQ ID NO: 412 is the determined cDNA sequence for clone 32003.
SEQ ID NO: 413 is the determined cDNA sequence for clone 31936.
SEQ ID NO: 414 is the determined cDNA sequence for clone 32007.
SEQ ID NO: 415 is the determined cDNA sequence for clone 31965.
SEQ ID NO: 416 is the determined cDNA sequence for clone 31935.
20 SEQ ID NO: 417 is the determined cDNA sequence for clone 32008.
SEQ ID NO: 418 is the determined cDNA sequence for clone 31966.
SEQ ID NO: 419 is the determined cDNA sequence for clone 32020.
SEQ ID NO: 420 is the determined cDNA sequence for clone 31971.
SEQ ID NO: 421 is the determined cDNA sequence for clone 31977.
25 SEQ ID NO: 422 is the determined cDNA sequence for clone 31985.
SEQ ID NO: 423 is the determined cDNA sequence for clone 32023.
SEQ ID NO: 424 is the determined cDNA sequence for clone 31981.
SEQ ID NO: 425 is the determined cDNA sequence for clone 32006.
SEQ ID NO: 426 is the determined cDNA sequence for clone 31991.
30 SEQ ID NO: 427 is the determined cDNA sequence for clone 31995.
SEQ ID NO: 428 is the determined cDNA sequence for clone 32000.

SEQ ID NO: 429 is the determined cDNA sequence for clone 31990.
SEQ ID NO: 430 is the determined cDNA sequence for clone 31946.
SEQ ID NO: 431 is the determined cDNA sequence for clone 31938.
SEQ ID NO: 432 is the determined cDNA sequence for clone 31941.
5 SEQ ID NO: 433 is the determined cDNA sequence for clone 31982.
SEQ ID NO: 434 is the determined cDNA sequence for clone 31996.
SEQ ID NO: 435 is the determined cDNA sequence for clone 32010.
SEQ ID NO: 436 is the determined cDNA sequence for clone 31974.
SEQ ID NO: 437 is the determined cDNA sequence for clone 31983.
10 SEQ ID NO: 438 is the determined cDNA sequence for clone 31999.
SEQ ID NO: 439 is the determined cDNA sequence for clone 31949.
SEQ ID NO: 440 is the determined cDNA sequence for clone 31947.
SEQ ID NO: 441 is the determined cDNA sequence for clone 31994.
SEQ ID NO: 442 is the determined cDNA sequence for clone 31958.
15 SEQ ID NO: 443 is the determined cDNA sequence for clone 31975.
SEQ ID NO: 444 is the determined cDNA sequence for clone 31984.
SEQ ID NO: 445 is the determined cDNA sequence for clone 32024.
SEQ ID NO: 446 is the determined cDNA sequence for clone 31972.
SEQ ID NO: 447 is the determined cDNA sequence for clone 31943.
20 SEQ ID NO: 448 is the determined cDNA sequence for clone 32018.
SEQ ID NO: 449 is the determined cDNA sequence for clone 32026.
SEQ ID NO: 450 is the determined cDNA sequence for clone 32009.
SEQ ID NO: 451 is the determined cDNA sequence for clone 32019.
SEQ ID NO: 452 is the determined cDNA sequence for clone 32025.
25 SEQ ID NO: 453 is the determined cDNA sequence for clone 31967.
SEQ ID NO: 454 is the determined cDNA sequence for clone 31968.
SEQ ID NO: 455 is the determined cDNA sequence for clone 31955.
SEQ ID NO: 456 is the determined cDNA sequence for clone 31951.
SEQ ID NO: 457 is the determined cDNA sequence for clone 31970.
30 SEQ ID NO: 458 is the determined cDNA sequence for clone 31962.
SEQ ID NO: 459 is the determined cDNA sequence for clone 32001.

SEQ ID NO: 460 is the determined cDNA sequence for clone 31953.
SEQ ID NO: 461 is the determined cDNA sequence for clone 31944.
SEQ ID NO: 462 is the determined cDNA sequence for clone 31825.
SEQ ID NO: 463 is the determined cDNA sequence for clone 31828.
5 SEQ ID NO: 464 is the determined cDNA sequence for clone 31830.
SEQ ID NO: 465 is the determined cDNA sequence for clone 31841.
SEQ ID NO: 466 is the determined cDNA sequence for clone 31847.
SEQ ID NO: 467 is the determined cDNA sequence for clone 31850.
SEQ ID NO: 468 is the determined cDNA sequence for clone 31852.
10 SEQ ID NO: 469 is the determined cDNA sequence for clone 31855.
SEQ ID NO: 470 is the determined cDNA sequence for clone 31858.
SEQ ID NO: 471 is the determined cDNA sequence for clone 31861.
SEQ ID NO: 472 is the determined cDNA sequence for clone 31868.
SEQ ID NO: 473 is the determined cDNA sequence for clone 31870.
15 SEQ ID NO: 474 is the determined cDNA sequence for clone 31872.
SEQ ID NO: 475 is the determined cDNA sequence for clone 31873.
SEQ ID NO: 476 is the determined cDNA sequence for clone 31877.
SEQ ID NO: 477 is the determined cDNA sequence for clone 31878.
SEQ ID NO: 478 is the determined cDNA sequence for clone 31885.
20 SEQ ID NO: 479 is the determined cDNA sequence for clone 31888.
SEQ ID NO: 480 is the determined cDNA sequence for clone 31890.
SEQ ID NO: 481 is the determined cDNA sequence for clone 31893.
SEQ ID NO: 482 is the determined cDNA sequence for clone 31898.
SEQ ID NO: 483 is the determined cDNA sequence for clone 31901.
25 SEQ ID NO: 484 is the determined cDNA sequence for clone 31909.
SEQ ID NO: 485 is the determined cDNA sequence for clone 31910.
SEQ ID NO: 486 is the determined cDNA sequence for clone 31914.
SEQ ID NO: 487 is the determined cDNA sequence for contig 1.
SEQ ID NO: 488 is the determined cDNA sequence for contig 2.
30 SEQ ID NO: 489 is the determined cDNA sequence for contig 3.
SEQ ID NO: 490 is the determined cDNA sequence for contig 4.

SEQ ID NO: 491 is the determined cDNA sequence for contig 5.
SEQ ID NO: 492 is the determined cDNA sequence for contig 6.
SEQ ID NO: 493 is the determined cDNA sequence for contig 7.
SEQ ID NO: 494 is the determined cDNA sequence for contig 8.
5 SEQ ID NO: 495 is the determined cDNA sequence for contig 9.
SEQ ID NO: 496 is the determined cDNA sequence for contig 10.
SEQ ID NO: 497 is the determined cDNA sequence for contig 11
SEQ ID NO: 498 is the determined cDNA sequence for contig 12
SEQ ID NO: 499 is the determined cDNA sequence for contig 13.
10 SEQ ID NO: 500 is the determined cDNA sequence for contig 14.
SEQ ID NO: 501 is the determined cDNA sequence for contig 15.
SEQ ID NO: 502 is the determined cDNA sequence for contig 16.
SEQ ID NO: 503 is the determined cDNA sequence for contig 17.
SEQ ID NO: 504 is the determined cDNA sequence for contig 18.
15 SEQ ID NO: 505 is the determined cDNA sequence for contig 19.
SEQ ID NO: 506 is the determined cDNA sequence for contig 20.
SEQ ID NO: 507 is the determined cDNA sequence for contig 21.
SEQ ID NO: 508 is the determined cDNA sequence for contig 22.
SEQ ID NO: 509 is the determined cDNA sequence for contig 23.
20 SEQ ID NO: 510 is the determined cDNA sequence for contig 24.
SEQ ID NO: 511 is the determined cDNA sequence for contig 25.
SEQ ID NO: 512 is the determined cDNA sequence for contig 26.
SEQ ID NO: 513 is the determined cDNA sequence for contig 27.
SEQ ID NO: 514 is the determined cDNA sequence for contig 28.
25 SEQ ID NO: 515 is the determined cDNA sequence for contig 29.
SEQ ID NO: 516 is the determined cDNA sequence for contig 30.
SEQ ID NO: 517 is the determined cDNA sequence for contig 31.
SEQ ID NO: 518 is the determined cDNA sequence for contig 32.
SEQ ID NO: 519 is the determined cDNA sequence for contig 33.
30 SEQ ID NO: 520 is the determined cDNA sequence for contig 34.
SEQ ID NO: 521 is the determined cDNA sequence for contig 35.

SEQ ID NO: 522 is the determined cDNA sequence for contig 36.
SEQ ID NO: 523 is the determined cDNA sequence for contig 37.
SEQ ID NO: 524 is the determined cDNA sequence for contig 38.
SEQ ID NO: 525 is the determined cDNA sequence for contig 39.
5 SEQ ID NO: 526 is the determined cDNA sequence for contig 40.
SEQ ID NO: 527 is the determined cDNA sequence for contig 41.
SEQ ID NO: 528 is the determined cDNA sequence for contig 42.
SEQ ID NO: 529 is the determined cDNA sequence for contig 43.
SEQ ID NO: 530 is the determined cDNA sequence for contig 44.
10 SEQ ID NO: 531 is the determined cDNA sequence for contig 45.
SEQ ID NO: 532 is the determined cDNA sequence for contig 46.
SEQ ID NO: 533 is the determined cDNA sequence for contig 47.
SEQ ID NO: 534 is the determined cDNA sequence for contig 48.
SEQ ID NO: 535 is the determined cDNA sequence for contig 49.
15 SEQ ID NO: 536 is the determined cDNA sequence for contig 50.
SEQ ID NO: 537 is the determined cDNA sequence for contig 51.
SEQ ID NO: 538 is the determined cDNA sequence for contig 52.
SEQ ID NO: 539 is the determined cDNA sequence for contig 53.
SEQ ID NO: 540 is the determined cDNA sequence for contig 54.
20 SEQ ID NO: 541 is the determined cDNA sequence for contig 55.
SEQ ID NO: 542 is the determined cDNA sequence for contig 56.
SEQ ID NO: 543 is the determined cDNA sequence for contig 58.
SEQ ID NO: 544 is the determined cDNA sequence for contig 59.
SEQ ID NO: 545 is the determined cDNA sequence for contig 60.
25 SEQ ID NO: 546 is the determined cDNA sequence for contig 61.
SEQ ID NO: 547 is the determined cDNA sequence for contig 62.
SEQ ID NO: 548 is the determined cDNA sequence for contig 63.
SEQ ID NO: 549 is the determined cDNA sequence for contig 64.
SEQ ID NO: 550 is the determined cDNA sequence for contig 65.
30 SEQ ID NO: 551 is the determined cDNA sequence for contig 66.
SEQ ID NO: 552 is the determined cDNA sequence for contig 67.

SEQ ID NO: 553 is the determined cDNA sequence for contig 68.
SEQ ID NO: 554 is the determined cDNA sequence for contig 69.
SEQ ID NO: 555 is the determined cDNA sequence for contig 70.
SEQ ID NO: 556 is the determined cDNA sequence for contig 71.
5 SEQ ID NO: 557 is the determined cDNA sequence for contig 72.
SEQ ID NO: 558 is the determined cDNA sequence for contig 73.
SEQ ID NO: 559 is the determined cDNA sequence for contig 74.
SEQ ID NO: 560 is the determined cDNA sequence for contig 75.
SEQ ID NO: 561 is the determined cDNA sequence for contig 76.
10 SEQ ID NO: 562 is the determined cDNA sequence for contig 77.
SEQ ID NO: 563 is the determined cDNA sequence for contig 78.
SEQ ID NO: 564 is the determined cDNA sequence for contig 79.
SEQ ID NO: 565 is the determined cDNA sequence for contig 80.
SEQ ID NO: 566 is the determined cDNA sequence for contig 81.
15 SEQ ID NO: 567 is the determined cDNA sequence for contig 82.
SEQ ID NO: 568 is the determined cDNA sequence for contig 83.
SEQ ID NO: 569 is the determined cDNA sequence for clone CS1-101.
SEQ ID NO: 570 is the determined cDNA sequence for clone CS1-102.
SEQ ID NO: 571 is the determined cDNA sequence for clone CS1-104.
20 SEQ ID NO: 572 is the determined cDNA sequence for clone CS1-105.
SEQ ID NO: 573 is the determined 3' cDNA sequence for clone CS1-106.
SEQ ID NO: 574 is the determined 5' cDNA sequence for clone CS1-106.
SEQ ID NO: 575 is the determined cDNA sequence for clone CS1-114.
SEQ ID NO: 576 is the determined cDNA sequence for clone CS1-118.
25 SEQ ID NO: 577 is the determined cDNA sequence for clone CS1-120.
SEQ ID NO: 578 is the determined cDNA sequence for clone CS1-123.
SEQ ID NO: 579 is the determined 3' cDNA sequence for clone CS1-124.
SEQ ID NO: 580 is the determined 5' cDNA sequence for clone CS1-124.
SEQ ID NO: 581 is the determined cDNA sequence for clone CS1-128.
30 SEQ ID NO: 582 is the determined cDNA sequence for clone CS1-132.
SEQ ID NO: 583 is the determined cDNA sequence for clone CS1-136.

SEQ ID NO: 584 is the determined cDNA sequence for clone CS1-137.
SEQ ID NO: 585 is the determined cDNA sequence for clone CS1-139.
SEQ ID NO: 586 is the determined cDNA sequence for clone CS1-141.
SEQ ID NO: 587 is the determined cDNA sequence for clone CS1-152.
5 SEQ ID NO: 588 is the determined cDNA sequence for clone CS1-154.
SEQ ID NO: 589 is the determined cDNA sequence for clone CS1-156.
SEQ ID NO: 590 is the determined cDNA sequence for clone CS1-158.
SEQ ID NO: 591 is the determined cDNA sequence for clone CS1-160.
SEQ ID NO: 592 is the determined cDNA sequence for clone CS1-168.
10 SEQ ID NO: 593 is the determined cDNA sequence for clone CS1-169.
SEQ ID NO: 594 is the determined cDNA sequence for clone CS1-171.
SEQ ID NO: 595 is the determined cDNA sequence for clone CS1-176.
SEQ ID NO: 596 is the determined cDNA sequence for clone CS1-178.
SEQ ID NO: 597 is the determined cDNA sequence for clone CS1-180.
15 SEQ ID NO: 598 is the determined cDNA sequence for clone CS1-183.
SEQ ID NO: 599 is the determined cDNA sequence for clone CS1-184.
SEQ ID NO: 600 is the determined cDNA sequence for clone CS1-187.
SEQ ID NO: 601 is the determined cDNA sequence for clone CS1-190.
SEQ ID NO: 602 is the determined cDNA sequence for clone CS1-194.
20 SEQ ID NO: 603 is the determined cDNA sequence for clone CS1-195.
SEQ ID NO: 604 is the determined cDNA sequence for clone CS1-196.
SEQ ID NO: 605 is the determined cDNA sequence for clone CS1-197.
SEQ ID NO: 606 is the determined cDNA sequence for clone CS1-200.
SEQ ID NO: 607 is the determined cDNA sequence for clone CS1-206.
25 SEQ ID NO: 608 is the determined cDNA sequence for clone CS1-207.
SEQ ID NO: 609 is the determined cDNA sequence for clone CS1-234.
SEQ ID NO: 610 is the determined cDNA sequence for clone CS1-238.
SEQ ID NO: 611 is the determined cDNA sequence for clone CS1-239.
SEQ ID NO: 612 is the determined cDNA sequence for clone CS1-243.
30 SEQ ID NO: 613 is the determined cDNA sequence for clone CS1-246.
SEQ ID NO: 614 is the determined cDNA sequence for clone CS1-249.

SEQ ID NO: 615 is the determined cDNA sequence for clone CS1-250.
SEQ ID NO: 616 is the determined cDNA sequence for clone CS1-252.
SEQ ID NO: 617 is the determined cDNA sequence for clone CT502.
SEQ ID NO: 618 is the determined cDNA sequence for clone CT507.
5 SEQ ID NO: 619 is the determined cDNA sequence for clone CT521.
SEQ ID NO: 620 is the determined cDNA sequence for clone CT544.
SEQ ID NO: 621 is the determined cDNA sequence for clone CT577.
SEQ ID NO: 622 is the determined cDNA sequence for clone CT580.
SEQ ID NO: 623 is the determined cDNA sequence for clone CT594.
10 SEQ ID NO: 624 is the determined cDNA sequence for clone CT606.
SEQ ID NO: 625 is the determined cDNA sequence for clone CT607.
SEQ ID NO: 626 is the determined cDNA sequence for clone CT599.
SEQ ID NO: 627 is the determined cDNA sequence for clone CT632.
SEQ ID NO: 628 is the determined cDNA sequence for clone 35691.
15 SEQ ID NO: 629 is the determined cDNA sequence for clone 35707.
SEQ ID NO: 630 is the determined cDNA sequence for clone CSE-2.
SEQ ID NO: 631 is the amino acid sequence for clone CSE-2.
SEQ ID NO: 632 is the determined cDNA sequence for clone CT2-1.
SEQ ID NO: 633 is the determined cDNA sequence for clone CT2-6.
20 SEQ ID NO: 634 is the determined cDNA sequence for clone CT2-8.
SEQ ID NO: 635 is the determined cDNA sequence for clone CT2-9.
SEQ ID NO: 636 is the determined cDNA sequence for clone CT2-12.
SEQ ID NO: 637 is the determined cDNA sequence for clone CT2-15.
SEQ ID NO: 638 is the determined cDNA sequence for clone CT2-16.
25 SEQ ID NO: 639 is the determined cDNA sequence for clone CT2-17.
SEQ ID NO: 640 is the determined cDNA sequence for clone CT2-19.
SEQ ID NO: 641 is the determined cDNA sequence for clone CT2-23.
SEQ ID NO: 642 is the determined cDNA sequence for clone CT2-25.
SEQ ID NO: 643 is the determined cDNA sequence for clone CT2-27.
30 SEQ ID NO: 644 is the determined cDNA sequence for clone CT2-35.
SEQ ID NO: 645 is the determined cDNA sequence for clone CT2-39.

SEQ ID NO: 646 is the determined cDNA sequence for clone CT2-41.
SEQ ID NO: 647 is the determined cDNA sequence for clone CT2-43.
SEQ ID NO: 648 is the determined cDNA sequence for clone CT2-44.
SEQ ID NO: 649 is the determined cDNA sequence for clone CT2-53.
5 SEQ ID NO: 650 is the determined cDNA sequence for clone CT2-54.
SEQ ID NO: 651 is the determined cDNA sequence for clone CT2-55.
SEQ ID NO: 652 is the determined cDNA sequence for clone CT2-57.
SEQ ID NO: 653 is the determined cDNA sequence for clone CT2-60.
SEQ ID NO: 654 is the determined cDNA sequence for clone CT2-64.
10 SEQ ID NO: 655 is the determined cDNA sequence for clone CT2-67.
SEQ ID NO: 656 is the determined cDNA sequence for clone CT2-68.
SEQ ID NO: 657 is the determined cDNA sequence for clone CT2-75.
SEQ ID NO: 658 is the determined cDNA sequence for clone CT2-79.
SEQ ID NO: 659 is the determined cDNA sequence for clone CT2-109.
15 SEQ ID NO: 660 is the determined cDNA sequence for clone CT2-112.
SEQ ID NO: 661 is the determined cDNA sequence for clone CT2-127.
SEQ ID NO: 662 is the determined cDNA sequence for clone CT2-129.
SEQ ID NO: 663 is the determined cDNA sequence for clone CT2-156.
SEQ ID NO: 664 is the determined cDNA sequence for clone CT2-162.
20 SEQ ID NO: 665 is the determined cDNA sequence for clone CT2-167.
SEQ ID NO: 666 is the determined cDNA sequence for clone CT2-169.
SEQ ID NO: 667 is the determined cDNA sequence for clone CT2-172.
SEQ ID NO: 668 is the determined cDNA sequence for clone CT2-173.
SEQ ID NO: 669 is the determined cDNA sequence for clone CT2-174.
25 SEQ ID NO: 670 is the determined cDNA sequence for clone CT2-177.
SEQ ID NO: 671 is the determined cDNA sequence for clone CT2-181.
SEQ ID NO: 672 is the determined cDNA sequence for clone CT2-191.
SEQ ID NO: 673 is the determined cDNA sequence for clone CT2-192.
SEQ ID NO: 674 is the determined cDNA sequence for clone CT2-207.
30 SEQ ID NO: 675 is the determined cDNA sequence for clone CT2-222.
SEQ ID NO: 676 is the determined cDNA sequence for clone CT2-223.

SEQ ID NO: 677 is the determined cDNA sequence for clone CT2-233.

SEQ ID NO: 678 is the determined cDNA sequence for clone CT2-244.

SEQ ID NO: 679 is the determined cDNA sequence for clone CT2-257.

SEQ ID NO: 680 is the determined cDNA sequence for clone CT2-279.

5 SEQ ID NO: 681 is the determined cDNA sequence for clone CT2-288.

SEQ ID NO: 682 is the determined cDNA sequence for clone CT2-291.

SEQ ID NO:683 is the full-length cDNA sequence for human PAC (SEQ ID NOs: 18 and 19).

10 SEQ ID NO:684 is the full-length cDNA sequence for murine homologue of human PAC (SEQ ID NO: 683).

SEQ ID NO:685 is the predicted amino acid sequence for the clone of SEQ ID NO:683.

SEQ ID NO:686 is a longer determined cDNA sequence for clone CoSub-19 (SEQ ID NO:138).

15 SEQ ID NO:687 is the predicted amino acid sequence for the clone of SEQ ID NO:686.

SEQ ID NO:688 is the nucleotide sequence of the M13 forward primer.

SEQ ID NO:689 is the nucleotide sequence of the M13 reverse primer.

20 SEQ ID NO:690 is a longer determined cDNA sequence for C799P (SEQ ID NO:40), showing homology to homo sapiens NADH/NADPH thyroid oxidase p138-tox mRNA.

SEQ ID NO:691 is a longer determined cDNA sequence for C794P (SEQ ID NO:41).

25 SEQ ID NO:692 is the predicted amino acid sequence for the clone of SEQ ID NO:690.

SEQ ID NO:693 is the predicted amino acid sequence for the clone of SEQ ID NO:691.

SEQ ID NO: 694 is the determined cDNA sequence for clone R0093:A03.

30 SEQ ID NO: 695 is the determined cDNA sequence for clone R0093:A10.

SEQ ID NO: 696 is the determined cDNA sequence for clone
R0093:A11.

SEQ ID NO: 697 is the determined cDNA sequence for clone
R0093:A12.

5 SEQ ID NO: 698 is the determined cDNA sequence for clone
R0093:B03.

SEQ ID NO: 699 is the determined cDNA sequence for clone
R0093:B04.

10 SEQ ID NO: 700 is the determined cDNA sequence for clone
R0093:B09.

SEQ ID NO: 701 is the determined cDNA sequence for clone
R0093:B10.

SEQ ID NO: 702 is the determined cDNA sequence for clone
R0093:B11.

15 SEQ ID NO: 703 is the determined cDNA sequence for clone
R0093:B12.

SEQ ID NO: 704 is the determined cDNA sequence for clone
R0093:C01.

20 SEQ ID NO: 705 is the determined cDNA sequence for clone
R0093:C03.

SEQ ID NO: 706 is the determined cDNA sequence for clone
R0093:C04.

SEQ ID NO: 707 is the determined cDNA sequence for clone
R0093:C06.

25 SEQ ID NO: 708 is the determined cDNA sequence for clone
R0093:C08.

SEQ ID NO: 709 is the determined cDNA sequence for clone
R0093:C09.

30 SEQ ID NO: 710 is the determined cDNA sequence for clone
R0093:C10.

SEQ ID NO: 711 is the determined cDNA sequence for clone

- R0093:C11.
SEQ ID NO: 712 is the determined cDNA sequence for clone
- R0093:C12.
SEQ ID NO: 713 is the determined cDNA sequence for clone
- 5 R0093:D01.
SEQ ID NO: 714 is the determined cDNA sequence for clone
- R0093:D02.
SEQ ID NO: 715 is the determined cDNA sequence for clone
- R0093:D03.
SEQ ID NO: 716 is the determined cDNA sequence for clone
- 10 R0093:D04.
SEQ ID NO: 717 is the determined cDNA sequence for clone
- R0093:D05.
SEQ ID NO: 718 is the determined cDNA sequence for clone
- 15 R0093:D06.
SEQ ID NO: 719 is the determined cDNA sequence for clone
- R0093:D07.
SEQ ID NO: 720 is the determined cDNA sequence for clone
- R0093:D08.
SEQ ID NO: 721 is the determined cDNA sequence for clone
- 20 R0093:D10.
SEQ ID NO: 722 is the determined cDNA sequence for clone
- R0093:D11.
SEQ ID NO: 723 is the determined cDNA sequence for clone
- 25 R0093:E02.
SEQ ID NO: 724 is the determined cDNA sequence for clone
- R0093:E03.
SEQ ID NO: 725 is the determined cDNA sequence for clone
- R0093:E04.
SEQ ID NO: 726 is the determined cDNA sequence for clone
- 30 R0093:E06.

- SEQ ID NO: 727 is the determined cDNA sequence for clone
R0093:E07.
- SEQ ID NO: 728 is the determined cDNA sequence for clone
R0093:E08.
- 5 SEQ ID NO: 729 is the determined cDNA sequence for clone
R0093:E09.
- SEQ ID NO: 730 is the determined cDNA sequence for clone
R0093:E10.
- 10 SEQ ID NO: 731 is the determined cDNA sequence for clone
R0093:E11.
- SEQ ID NO: 732 is the determined cDNA sequence for clone
R0093:F02.
- SEQ ID NO: 733 is the determined cDNA sequence for clone
R0093:F03.
- 15 SEQ ID NO: 734 is the determined cDNA sequence for clone
R0093:F04.
- SEQ ID NO: 735 is the determined cDNA sequence for clone
R0093:F05.
- 20 SEQ ID NO: 736 is the determined cDNA sequence for clone
R0093:F06.
- SEQ ID NO: 737 is the determined cDNA sequence for clone
R0093:F08.
- SEQ ID NO: 738 is the determined cDNA sequence for clone
R0093:F09.
- 25 SEQ ID NO: 739 is the determined cDNA sequence for clone
R0093:F10.
- SEQ ID NO: 740 is the determined cDNA sequence for clone
R0093:F12.
- 30 SEQ ID NO: 741 is the determined cDNA sequence for clone
R0093:G01.
- SEQ ID NO: 742 is the determined cDNA sequence for clone

R0093:G03.
SEQ ID NO: 743 is the determined cDNA sequence for clone
R0093:G04.
SEQ ID NO: 744 is the determined cDNA sequence for clone
5 R0093:G06.
SEQ ID NO: 745 is the determined cDNA sequence for clone
R0093:G07.
SEQ ID NO: 746 is the determined cDNA sequence for clone
R0093:G08.
10 SEQ ID NO: 747 is the determined cDNA sequence for clone
R0093:G09.
SEQ ID NO: 748 is the determined cDNA sequence for clone
R0093:G10.
SEQ ID NO: 749 is the determined cDNA sequence for clone
15 R0093:G11.
SEQ ID NO: 750 is the determined cDNA sequence for clone
R0093:G12.
SEQ ID NO: 751 is the determined cDNA sequence for clone
R0093:H02.
20 SEQ ID NO: 752 is the determined cDNA sequence for clone
R0093:H03.
SEQ ID NO: 753 is the determined cDNA sequence for clone
R0093:H04.
SEQ ID NO: 754 is the determined cDNA sequence for clone
25 R0093:H05.
SEQ ID NO: 755 is the determined cDNA sequence for clone
R0093:H07.
SEQ ID NO: 756 is the determined cDNA sequence for clone
R0093:H08.
30 SEQ ID NO: 757 is the determined cDNA sequence for clone
R0093:H09.

SEQ ID NO: 758 is the determined cDNA sequence for clone
R0093:H10.

SEQ ID NO: 759 is the determined cDNA sequence for clone
R0093:H11.

5 SEQ ID NO: 760 is the determined cDNA sequence for clone
R0094:A03.

SEQ ID NO: 761 is the determined cDNA sequence for clone
R0094:A05.

10 SEQ ID NO: 762 is the determined cDNA sequence for clone
R0094:A06.

SEQ ID NO: 763 is the determined cDNA sequence for clone
R0094:A07.

SEQ ID NO: 764 is the determined cDNA sequence for clone
R0094:A09.

15 SEQ ID NO: 765 is the determined cDNA sequence for clone
R0094:A10.

SEQ ID NO: 766 is the determined cDNA sequence for clone
R0094:A12.

20 SEQ ID NO: 767 is the determined cDNA sequence for clone
R0094:B03.

SEQ ID NO: 768 is the determined cDNA sequence for clone
R0094:B06.

SEQ ID NO: 769 is the determined cDNA sequence for clone
R0094:B08.

25 SEQ ID NO: 770 is the determined cDNA sequence for clone
R0094:B11.

SEQ ID NO: 771 is the determined cDNA sequence for clone
R0094:B12.

30 SEQ ID NO: 772 is the determined cDNA sequence for clone
R0094:C01.

SEQ ID NO: 773 is the determined cDNA sequence for clone

R0094:C02.

SEQ ID NO: 774 is the determined cDNA sequence for clone

R0094:C03.

SEQ ID NO: 775 is the determined cDNA sequence for clone

5 R0094:C05.

SEQ ID NO: 776 is the determined cDNA sequence for clone

R0094:C06.

SEQ ID NO: 777 is the determined cDNA sequence for clone

R0094:C08.

10 SEQ ID NO: 778 is the determined cDNA sequence for clone

R0094:C09.

SEQ ID NO: 779 is the determined cDNA sequence for clone

R0094:C10.

SEQ ID NO: 780 is the determined cDNA sequence for clone

15 R0094:C11.

SEQ ID NO: 781 is the determined cDNA sequence for clone

R0094:C12.

SEQ ID NO: 782 is the determined cDNA sequence for clone

R0094:D01.

20 SEQ ID NO: 783 is the determined cDNA sequence for clone

R0094:D02.

SEQ ID NO: 784 is the determined cDNA sequence for clone

R0094:D03.

SEQ ID NO: 785 is the determined cDNA sequence for clone

25 R0094:D04.

SEQ ID NO: 786 is the determined cDNA sequence for clone

R0094:D05.

SEQ ID NO: 787 is the determined cDNA sequence for clone

R0094:D07.

30 SEQ ID NO: 788 is the determined cDNA sequence for clone

R0094:D08.

SEQ ID NO: 789 is the determined cDNA sequence for clone
R0094:D09.

SEQ ID NO: 790 is the determined cDNA sequence for clone
R0094:D10.

5 SEQ ID NO: 791 is the determined cDNA sequence for clone
R0094:D12.

SEQ ID NO: 792 is the determined cDNA sequence for clone
R0094:E01.

10 SEQ ID NO: 793 is the determined cDNA sequence for clone
R0094:E02.

SEQ ID NO: 794 is the determined cDNA sequence for clone
R0094:E03.

SEQ ID NO: 795 is the determined cDNA sequence for clone
R0094:E05.

15 SEQ ID NO: 796 is the determined cDNA sequence for clone
R0094:E06.

SEQ ID NO: 797 is the determined cDNA sequence for clone
R0094:E07.

20 SEQ ID NO: 798 is the determined cDNA sequence for clone
R0094:E08.

SEQ ID NO: 799 is the determined cDNA sequence for clone
R0094:E09.

SEQ ID NO: 800 is the determined cDNA sequence for clone
R0094:E10.

25 SEQ ID NO: 801 is the determined cDNA sequence for clone
R0094:E11.

SEQ ID NO: 802 is the determined cDNA sequence for clone
R0094:E12.

30 SEQ ID NO: 803 is the determined cDNA sequence for clone
R0094:F01.

SEQ ID NO: 804 is the determined cDNA sequence for clone

R0094:F03.

SEQ ID NO: 805 is the determined cDNA sequence for clone

R0094:F05.

SEQ ID NO: 806 is the determined cDNA sequence for clone

5 R0094:F06.

SEQ ID NO: 807 is the determined cDNA sequence for clone

R0094:F07.

SEQ ID NO: 808 is the determined cDNA sequence for clone

R0094:F08.

10

SEQ ID NO: 809 is the determined cDNA sequence for clone

R0094:F09.

SEQ ID NO: 810 is the determined cDNA sequence for clone

R0094:F10.

SEQ ID NO: 811 is the determined cDNA sequence for clone

15 R0094:F11.

SEQ ID NO: 812 is the determined cDNA sequence for clone

R0094:F12.

SEQ ID NO: 813 is the determined cDNA sequence for clone

R0094:G02.

20

SEQ ID NO: 814 is the determined cDNA sequence for clone

R0094:G03.

SEQ ID NO: 815 is the determined cDNA sequence for clone

R0094:G04.

SEQ ID NO: 816 is the determined cDNA sequence for clone

25 R0094:G06.

SEQ ID NO: 817 is the determined cDNA sequence for clone

R0094:G07.

SEQ ID NO: 818 is the determined cDNA sequence for clone

R0094:G08.

30

SEQ ID NO: 819 is the determined cDNA sequence for clone

R0094:G10.

SEQ ID NO: 820 is the determined cDNA sequence for clone
R0094:G11.

SEQ ID NO: 821 is the determined cDNA sequence for clone
R0094:G12.

5 SEQ ID NO: 822 is the determined cDNA sequence for clone
R0094:H01.

SEQ ID NO: 823 is the determined cDNA sequence for clone
R0094:H03.

SEQ ID NO: 824 is the determined cDNA sequence for clone
10 R0094:H04.

SEQ ID NO: 825 is the determined cDNA sequence for clone
R0094:H05.

SEQ ID NO: 826 is the determined cDNA sequence for clone
R0094:H06.

15 SEQ ID NO: 827 is the determined cDNA sequence for clone
R0094:H08.

SEQ ID NO: 828 is the determined cDNA sequence for clone
R0094:H09.

SEQ ID NO: 829 is the determined cDNA sequence for clone
20 R0094:H10.

SEQ ID NO: 830 is the determined cDNA sequence for clone
R0094:H11.

SEQ ID NO: 831 is the determined cDNA sequence for clone
R0095:A03.

25 SEQ ID NO: 832 is the determined cDNA sequence for clone
R0095:A06.

SEQ ID NO: 833 is the determined cDNA sequence for clone
R0095:A07.

SEQ ID NO: 834 is the determined cDNA sequence for clone
30 R0095:B01.

SEQ ID NO: 835 is the determined cDNA sequence for clone

R0095:B02.

SEQ ID NO: 836 is the determined cDNA sequence for clone

R0095:B03.

SEQ ID NO: 837 is the determined cDNA sequence for clone

5 R0095:B04.

SEQ ID NO: 838 is the determined cDNA sequence for clone

R0095:B05.

SEQ ID NO: 839 is the determined cDNA sequence for clone

R0095:B06.

10 SEQ ID NO: 840 is the determined cDNA sequence for clone

R0095:B10.

SEQ ID NO: 841 is the determined cDNA sequence for clone

R0095:B11.

SEQ ID NO: 842 is the determined cDNA sequence for clone

15 R0095:B12.

SEQ ID NO: 843 is the determined cDNA sequence for clone

R0095:C01.

SEQ ID NO: 844 is the determined cDNA sequence for clone

R0095:C03.

20 SEQ ID NO: 845 is the determined cDNA sequence for clone

R0095:C04.

SEQ ID NO: 846 is the determined cDNA sequence for clone

R0095:C05.

SEQ ID NO: 847 is the determined cDNA sequence for clone

25 R0095:C06.

SEQ ID NO: 848 is the determined cDNA sequence for clone

R0095:C07.

SEQ ID NO: 849 is the determined cDNA sequence for clone

R0095:C08.

30 SEQ ID NO: 850 is the determined cDNA sequence for clone

R0095:C10.

- SEQ ID NO: 851 is the determined cDNA sequence for clone
R0095:C12.
- SEQ ID NO: 852 is the determined cDNA sequence for clone
R0095:D01.
- 5 SEQ ID NO: 853 is the determined cDNA sequence for clone
R0095:D03.
- SEQ ID NO: 854 is the determined cDNA sequence for clone
R0095:D04.
- 10 SEQ ID NO: 855 is the determined cDNA sequence for clone
R0095:D06.
- SEQ ID NO: 856 is the determined cDNA sequence for clone
R0095:D07.
- SEQ ID NO: 857 is the determined cDNA sequence for clone
R0095:D08.
- 15 SEQ ID NO: 858 is the determined cDNA sequence for clone
R0095:D09.
- SEQ ID NO: 859 is the determined cDNA sequence for clone
R0095:D11.
- 20 SEQ ID NO: 860 is the determined cDNA sequence for clone
R0095:D12.
- SEQ ID NO: 861 is the determined cDNA sequence for clone
R0095:E01.
- SEQ ID NO: 862 is the determined cDNA sequence for clone
R0095:E02.
- 25 SEQ ID NO: 863 is the determined cDNA sequence for clone
R0095:E04.
- SEQ ID NO: 864 is the determined cDNA sequence for clone
R0095:E05.
- 30 SEQ ID NO: 865 is the determined cDNA sequence for clone
R0095:E06.
- SEQ ID NO: 866 is the determined cDNA sequence for clone

R0095:E07.
SEQ ID NO: 867 is the determined cDNA sequence for clone
R0095:E08.
SEQ ID NO: 868 is the determined cDNA sequence for clone
5 R0095:E11.
SEQ ID NO: 869 is the determined cDNA sequence for clone
R0095:E12.
SEQ ID NO: 870 is the determined cDNA sequence for clone
R0095:F01.
10 SEQ ID NO: 871 is the determined cDNA sequence for clone
R0095:F03.
SEQ ID NO: 872 is the determined cDNA sequence for clone
R0095:F06.
SEQ ID NO: 873 is the determined cDNA sequence for clone
15 R0095:F10.
SEQ ID NO: 874 is the determined cDNA sequence for clone
R0095:F11.
SEQ ID NO: 875 is the determined cDNA sequence for clone
R0095:G02.
20 SEQ ID NO: 876 is the determined cDNA sequence for clone
R0095:G03.
SEQ ID NO: 877 is the determined cDNA sequence for clone
R0095:G04.
SEQ ID NO: 878 is the determined cDNA sequence for clone
25 R0095:G08.
SEQ ID NO: 879 is the determined cDNA sequence for clone
R0095:G09.
SEQ ID NO: 880 is the determined cDNA sequence for clone
R0095:G10.
30 SEQ ID NO: 881 is the determined cDNA sequence for clone
R0095:H01.

SEQ ID NO: 882 is the determined cDNA sequence for clone
R0095:H02.

SEQ ID NO: 883 is the determined cDNA sequence for clone
R0095:H04.

5 SEQ ID NO: 884 is the determined cDNA sequence for clone
R0095:H06.

SEQ ID NO: 885 is the determined cDNA sequence for clone
R0095:H07.

10 SEQ ID NO: 886 is the determined cDNA sequence for clone
R0095:H09.

SEQ ID NO: 887 is the determined cDNA sequence for clone
R0096:A02.

SEQ ID NO: 888 is the determined cDNA sequence for clone
R0096:A08.

15 SEQ ID NO: 889 is the determined cDNA sequence for clone
R0096:A09.

SEQ ID NO: 890 is the determined cDNA sequence for clone
R0096:A10.

20 SEQ ID NO: 891 is the determined cDNA sequence for clone
R0096:A11.

SEQ ID NO: 892 is the determined cDNA sequence for clone
R0096:A12.

SEQ ID NO: 893 is the determined cDNA sequence for clone
R0096:B02.

25 SEQ ID NO: 894 is the determined cDNA sequence for clone
R0096:B03.

SEQ ID NO: 895 is the determined cDNA sequence for clone
R0096:B04.

30 SEQ ID NO: 896 is the determined cDNA sequence for clone
R0096:B05.

SEQ ID NO: 897 is the determined cDNA sequence for clone

R0096:B06.

SEQ ID NO: 898 is the determined cDNA sequence for clone

R0096:B07.

SEQ ID NO: 899 is the determined cDNA sequence for clone

5 R0096:B08.

SEQ ID NO: 900 is the determined cDNA sequence for clone

R0096:B09.

SEQ ID NO: 901 is the determined cDNA sequence for clone

R0096:B10.

10 SEQ ID NO: 902 is the determined cDNA sequence for clone

R0096:B11.

SEQ ID NO: 903 is the determined cDNA sequence for clone

R0096:B12.

SEQ ID NO: 904 is the determined cDNA sequence for clone

15 R0096:C01.

SEQ ID NO: 905 is the determined cDNA sequence for clone

R0096:C03.

SEQ ID NO: 906 is the determined cDNA sequence for clone

R0096:C04.

20 SEQ ID NO: 907 is the determined cDNA sequence for clone

R0096:C05.

SEQ ID NO: 908 is the determined cDNA sequence for clone

R0096:C06.

SEQ ID NO: 909 is the determined cDNA sequence for clone

25 R0096:C07.

SEQ ID NO: 910 is the determined cDNA sequence for clone

R0096:C08.

SEQ ID NO: 911 is the determined cDNA sequence for clone

R0096:C09.

30 SEQ ID NO: 912 is the determined cDNA sequence for clone

R0096:C10.

SEQ ID NO: 913 is the determined cDNA sequence for clone
R0096:C11.

SEQ ID NO: 914 is the determined cDNA sequence for clone
R0096:C12.

5 SEQ ID NO: 915 is the determined cDNA sequence for clone
R0096:D01.

SEQ ID NO: 916 is the determined cDNA sequence for clone
R0096:D02.

10 SEQ ID NO: 917 is the determined cDNA sequence for clone
R0096:D03.

SEQ ID NO: 918 is the determined cDNA sequence for clone
R0096:D04.

SEQ ID NO: 919 is the determined cDNA sequence for clone
R0096:D05.

15 SEQ ID NO: 920 is the determined cDNA sequence for clone
R0096:D08.

SEQ ID NO: 921 is the determined cDNA sequence for clone
R0096:D09.

20 SEQ ID NO: 922 is the determined cDNA sequence for clone
R0096:D10.

SEQ ID NO: 923 is the determined cDNA sequence for clone
R0096:D12.

SEQ ID NO: 924 is the determined cDNA sequence for clone
R0096:E01.

25 SEQ ID NO: 925 is the determined cDNA sequence for clone
R0096:E02.

SEQ ID NO: 926 is the determined cDNA sequence for clone
R0096:E03.

30 SEQ ID NO: 927 is the determined cDNA sequence for clone
R0096:E04.

SEQ ID NO: 928 is the determined cDNA sequence for clone

R0096:E05.
SEQ ID NO: 929 is the determined cDNA sequence for clone
R0096:E06.
SEQ ID NO: 930 is the determined cDNA sequence for clone
5 R0096:E08.
SEQ ID NO: 931 is the determined cDNA sequence for clone
R0096:E09.
SEQ ID NO: 932 is the determined cDNA sequence for clone
R0096:E10.
10 SEQ ID NO: 933 is the determined cDNA sequence for clone
R0096:E11.
SEQ ID NO: 934 is the determined cDNA sequence for clone
R0096:E12.
SEQ ID NO: 935 is the determined cDNA sequence for clone
15 R0096:F01.
SEQ ID NO: 936 is the determined cDNA sequence for clone
R0096:F02.
SEQ ID NO: 937 is the determined cDNA sequence for clone
R0096:F03.
20 SEQ ID NO: 938 is the determined cDNA sequence for clone
R0096:F04.
SEQ ID NO: 939 is the determined cDNA sequence for clone
R0096:F05.
SEQ ID NO: 940 is the determined cDNA sequence for clone
25 R0096:F07.
SEQ ID NO: 941 is the determined cDNA sequence for clone
R0096:F10.
SEQ ID NO: 942 is the determined cDNA sequence for clone
R0096:F11.
30 SEQ ID NO: 943 is the determined cDNA sequence for clone
R0096:G01.

- SEQ ID NO: 944 is the determined cDNA sequence for clone
R0096:G03.
- SEQ ID NO: 945 is the determined cDNA sequence for clone
R0096:G04.
- 5 SEQ ID NO: 946 is the determined cDNA sequence for clone
R0096:G05.
- SEQ ID NO: 947 is the determined cDNA sequence for clone
R0096:G06.
- 10 SEQ ID NO: 948 is the determined cDNA sequence for clone
R0096:G07.
- SEQ ID NO: 949 is the determined cDNA sequence for clone
R0096:G09.
- SEQ ID NO: 950 is the determined cDNA sequence for clone
R0096:G10.
- 15 SEQ ID NO: 951 is the determined cDNA sequence for clone
R0096:G12.
- SEQ ID NO: 952 is the determined cDNA sequence for clone
R0096:H01.
- SEQ ID NO: 953 is the determined cDNA sequence for clone
20 R0096:H02.
- SEQ ID NO: 954 is the determined cDNA sequence for clone
R0096:H03.
- SEQ ID NO: 955 is the determined cDNA sequence for clone
R0096:H07.
- 25 SEQ ID NO: 956 is the determined cDNA sequence for clone
R0096:H08.
- SEQ ID NO: 957 is the determined cDNA sequence for clone
R0097:A05.
- 30 R0097:A06.
- SEQ ID NO: 958 is the determined cDNA sequence for clone
- SEQ ID NO: 959 is the determined cDNA sequence for clone

R0097:A10.
SEQ ID NO: 960 is the determined cDNA sequence for clone
R0097:A11.
SEQ ID NO: 961 is the determined cDNA sequence for clone
5 R0097:B01.
SEQ ID NO: 962 is the determined cDNA sequence for clone
R0097:B03.
SEQ ID NO: 963 is the determined cDNA sequence for clone
R0097:B04.
10 SEQ ID NO: 964 is the determined cDNA sequence for clone
R0097:B05.
SEQ ID NO: 965 is the determined cDNA sequence for clone
R0097:B06.
SEQ ID NO: 966 is the determined cDNA sequence for clone
15 R0097:B07.
SEQ ID NO: 967 is the determined cDNA sequence for clone
R0097:B11.
SEQ ID NO: 968 is the determined cDNA sequence for clone
R0097:C01.
20 SEQ ID NO: 969 is the determined cDNA sequence for clone
R0097:C02.
SEQ ID NO: 970 is the determined cDNA sequence for clone
R0097:C03.
SEQ ID NO: 971 is the determined cDNA sequence for clone
25 R0097:C04.
SEQ ID NO: 972 is the determined cDNA sequence for clone
R0097:C05.
SEQ ID NO: 973 is the determined cDNA sequence for clone
R0097:C07.
30 SEQ ID NO: 974 is the determined cDNA sequence for clone
R0097:C08.

- SEQ ID NO: 975 is the determined cDNA sequence for clone
R0097:C09.
- SEQ ID NO: 976 is the determined cDNA sequence for clone
R0097:C10.
- 5 SEQ ID NO: 977 is the determined cDNA sequence for clone
R0097:D01.
- SEQ ID NO: 978 is the determined cDNA sequence for clone
R0097:D08.
- 10 SEQ ID NO: 979 is the determined cDNA sequence for clone
R0097:E02.
- SEQ ID NO: 980 is the determined cDNA sequence for clone
R0097:E09.
- SEQ ID NO: 981 is the determined cDNA sequence for clone
R0097:E11.
- 15 SEQ ID NO: 982 is the determined cDNA sequence for clone
R0097:F01.
- SEQ ID NO: 983 is the determined cDNA sequence for clone
R0097:F11.
- SEQ ID NO: 984 is the determined cDNA sequence for clone
20 R0097:G01.
- SEQ ID NO: 985 is the determined cDNA sequence for clone
R0097:G11.
- SEQ ID NO: 986 is the determined cDNA sequence for clone
R0097:G12.
- 25 SEQ ID NO: 987 is the determined cDNA sequence for clone
R0097:H01.
- SEQ ID NO: 988 is the determined cDNA sequence for clone
R0097:H02.
- SEQ ID NO: 989 is the determined cDNA sequence for clone
30 R0097:H04.
- SEQ ID NO: 990 is the determined cDNA sequence for clone

R0097:H06.

SEQ ID NO: 991 is the determined cDNA sequence for clone

R0097:H07.

SEQ ID NO: 992 is the determined cDNA sequence for clone

5 R0097:H09.

SEQ ID NO: 993 is the determined cDNA sequence for clone

R0097:H11.

SEQ ID NO: 994 is the determined cDNA sequence for clone

R0098:A03.

10 SEQ ID NO: 995 is the determined cDNA sequence for clone

R0098:A05.

SEQ ID NO: 996 is the determined cDNA sequence for clone

R0098:A06.

SEQ ID NO: 997 is the determined cDNA sequence for clone

15 R0098:A10.

SEQ ID NO: 998 is the determined cDNA sequence for clone

R0098:A12.

SEQ ID NO: 999 is the determined cDNA sequence for clone

R0098:B01.

20 SEQ ID NO: 1000 is the determined cDNA sequence for clone

R0098:B02.

SEQ ID NO: 1001 is the determined cDNA sequence for clone

R0098:B05.

SEQ ID NO: 1002 is the determined cDNA sequence for clone

25 R0098:B06.

SEQ ID NO: 1003 is the determined cDNA sequence for clone

R0098:B10.

SEQ ID NO: 1004 is the determined cDNA sequence for clone

R0098:C03.

30 SEQ ID NO: 1005 is the determined cDNA sequence for clone

R0098:C04.

SEQ ID NO: 1006 is the determined cDNA sequence for clone
R0098:C05.

SEQ ID NO: 1007 is the determined cDNA sequence for clone
R0098:C10.

5 SEQ ID NO: 1008 is the determined cDNA sequence for clone
R0098:C11.

SEQ ID NO: 1009 is the determined cDNA sequence for clone
R0098:D01.

10 SEQ ID NO: 1010 is the determined cDNA sequence for clone
R0098:D02.

SEQ ID NO: 1011 is the determined cDNA sequence for clone
R0098:D07.

SEQ ID NO: 1012 is the determined cDNA sequence for clone
R0098:D08.

15 SEQ ID NO: 1013 is the determined cDNA sequence for clone
R0098:D09.

SEQ ID NO: 1014 is the determined cDNA sequence for clone
R0098:D10.

20 SEQ ID NO: 1015 is the determined cDNA sequence for clone
R0098:D11.

SEQ ID NO: 1016 is the determined cDNA sequence for clone
R0098:D12.

SEQ ID NO: 1017 is the determined cDNA sequence for clone
R0098:E01.

25 SEQ ID NO: 1018 is the determined cDNA sequence for clone
R0098:E04.

SEQ ID NO: 1019 is the determined cDNA sequence for clone
R0098:E05.

30 SEQ ID NO: 1020 is the determined cDNA sequence for clone
R0098:E06.

SEQ ID NO: 1021 is the determined cDNA sequence for clone

R0098:E07.
SEQ ID NO: 1022 is the determined cDNA sequence for clone
R0098:E11.
SEQ ID NO: 1023 is the determined cDNA sequence for clone
5 R0098:F04.
SEQ ID NO: 1024 is the determined cDNA sequence for clone
R0098:F05.
SEQ ID NO: 1025 is the determined cDNA sequence for clone
R0098:F06.
10 SEQ ID NO: 1026 is the determined cDNA sequence for clone
R0098:F07.
SEQ ID NO: 1027 is the determined cDNA sequence for clone
R0098:F08.
SEQ ID NO: 1028 is the determined cDNA sequence for clone
15 R0098:F09.
SEQ ID NO: 1029 is the determined cDNA sequence for clone
R0098:F10.
SEQ ID NO: 1030 is the determined cDNA sequence for clone
R0098:F11.
20 SEQ ID NO: 1031 is the determined cDNA sequence for clone
R0098:F12.
SEQ ID NO: 1032 is the determined cDNA sequence for clone
R0098:G02.
SEQ ID NO: 1033 is the determined cDNA sequence for clone
25 R0098:G03.
SEQ ID NO: 1034 is the determined cDNA sequence for clone
R0098:G05.
SEQ ID NO: 1035 is the determined cDNA sequence for clone
R0098:G06.
30 SEQ ID NO: 1036 is the determined cDNA sequence for clone
R0098:G07.

SEQ ID NO: 1037 is the determined cDNA sequence for clone
R0098:G08.

SEQ ID NO: 1038 is the determined cDNA sequence for clone
R0098:G09.

5 SEQ ID NO: 1039 is the determined cDNA sequence for clone
R0098:G10.

SEQ ID NO: 1040 is the determined cDNA sequence for clone
R0098:G11.

10 SEQ ID NO: 1041 is the determined cDNA sequence for clone
R0098:G12.

SEQ ID NO: 1042 is the determined cDNA sequence for clone
R0098:H02.

SEQ ID NO: 1043 is the determined cDNA sequence for clone
R0098:H03.

15 SEQ ID NO: 1044 is the determined cDNA sequence for clone
R0098:H04.

SEQ ID NO: 1045 is the determined cDNA sequence for clone
R0098:H05.

20 SEQ ID NO: 1046 is the determined cDNA sequence for clone
R0098:H07.

SEQ ID NO: 1047 is the determined cDNA sequence for clone
R0098:H08.

SEQ ID NO: 1048 is the determined cDNA sequence for clone
R0098:H11.

25 SEQ ID NO: 1049 is the determined cDNA sequence for clone C878P
which shows sequence similarity to homo sapiens cDNA FLJ10884 fis, clone
NT2RP4001950 and homo sapiens cDNA FLJ11111 fis, clone PLACE1005923.

SEQ ID NO: 1050 is the determined cDNA sequence for clone C882P which
shows sequence similarity to homo sapiens cDNA FLJ20116 fis, clone COLO 5655
30 and homo sapiens cDNA FLJ20740 fis, clone HEP07118.

SEQ ID NO: 1051 is the determined cDNA sequence for clone C883P which shows sequence similarity to human homeobox protein Cdx2 mRNA.

SEQ ID NO: 1052 is the determined cDNA sequence for clone C884P which shows sequence similarity to human TM4SF3 (aka, CO-029).

5 SEQ ID NO: 1053 is the determined cDNA sequence for clone C886P which shows sequence similarity to human secretory protein (P1.B) mRNA and homo sapiens trefoil factor 3 (intestinal) (TFF3) mRNA.

SEQ ID NO: 1054 is the determined cDNA sequence for clone C892P which shows sequence similarity to human galectin-4 mRNA.

10 SEQ ID NO: 1055 is the determined cDNA sequence for clone C900P which shows sequence similarity to homo sapiens mucin 11 (MUC11) mRNA.

SEQ ID NO: 1056 is the determined cDNA sequence for clone C902P which shows sequence similarity to homo sapiens calcium-dependent chloride channel-1 (hCLCA1) mRNA.

15 SEQ ID NO: 1057 is the determined cDNA sequence for clone C903P which shows sequence similarity to homo sapiens transmembrane mucin 12 (MUC12) mRNA.

SEQ ID NO: 1058 is the determined cDNA sequence for clone C899P which shows sequence similarity to homo sapiens intestinal mucin (MUC2) mRNA.

20 SEQ ID NO:1059 is the predicted amino acid sequence for the clone of SEQ ID NO:1049.

SEQ ID NO:1060 is the predicted amino acid sequence for the clone of SEQ ID NO:1050.

25 SEQ ID NO:1061 is the predicted amino acid sequence for the clone of SEQ ID NO:1051.

SEQ ID NO:1062 is the predicted amino acid sequence for the clone of SEQ ID NO:1052.

SEQ ID NO:1063 is the predicted amino acid sequence for the clone of SEQ ID NO:1053.

30 SEQ ID NO:1064 is the predicted amino acid sequence for the clone of SEQ ID NO:1054.

SEQ ID NO:1065 is the predicted amino acid sequence for the clone of SEQ ID NO:1055.

SEQ ID NO:1066 is the predicted amino acid sequence for the clone of SEQ ID NO:1056.

5 SEQ ID NO:1067 is the predicted amino acid sequence for the clone of SEQ ID NO:1057.

SEQ ID NO:1068 is the predicted amino acid sequence for the clone of SEQ ID NO:1058.

10 SEQ ID NO:1069 is the full length nucleotide sequence for clone CS1-152 (C880P, C887P).

SEQ ID NO:1070 is the predicted amino acid sequence for the clone of SEQ ID NO:1069.

15 SEQ ID NO:1071 is the cDNA sequence for human colon specific gene (geneseq X03195) identified from a computer search of the public geneseq database and which shows similarity to clone C880P.

SEQ ID NO:1072 is the cDNA sequence for human protein comprising secretory signal nucleotide sequence 3 (geneseq V29035) identified from a computer search of the public geneseq database and which shows similarity to clone C880P.

20 SEQ ID NO:1073 is the cDNA sequence for open reading frame human protein comprising secretory signal 3 (geneseq V29036) identified from a computer search of the public geneseq database and which shows similarity to clone C880P.

SEQ ID NO:1074 is the cDNA sequence for human colon specific protein cDNA (geneseq T51784) identified from a computer search of the public geneseq database and which shows similarity to clone C880P.

25 SEQ ID NO:1075 is the cDNA sequence for human Reg 1-gamma protein (geneseq V29156) identified from a computer search of the public geneseq database and which shows similarity to clone C880P.

30 SEQ ID NO:1076 is the cDNA sequence for human intestinal peptide-associated transporter HPT-1 mRNA, complete cds and homo sapiens mRNA for L1-cadherin (geneseq X18166) identified from a computer search of the public geneseq database and which shows similarity to clone C888P.

SEQ ID NO:1077 is the amino acid sequence of geneseq record W12691 which shows sequence similarity to clone C880P.

SEQ ID NO:1078 is the amino acid sequence of geneseq record W37866 which shows sequence similarity to clone C880P.

5 SEQ ID NO:1079 is the amino acid sequence of geneseq record W37929 which shows sequence similarity to clone C880P.

SEQ ID NO:1080 is the amino acid sequence of geneseq record W84274 which shows sequence similarity to clone C880P.

SEQ ID NO:1081 is the amino acid sequence of geneseq record W740898
10 which shows sequence similarity to clone C888P.

SEQ ID NO:1082 is the determined cDNA sequence for clone 27540

SEQ ID NO:1083 is the predicted amino acid sequence of clone 27540 (SEQ ID NO:1082)

DETAILED DESCRIPTION OF THE INVENTION

15 As noted above, the present invention is generally directed to compositions and methods for the therapy and diagnosis of cancer, such as colon cancer. The compositions described herein may include colon tumor polypeptides, polynucleotides encoding such polypeptides, binding agents such as antibodies, antigen presenting cells (APCs) and/or immune system cells (e.g., T cells).

20 Polypeptides of the present invention generally comprise at least a portion (such as an immunogenic portion) of a colon tumor protein or a variant thereof. A "colon tumor protein" is a protein that is expressed in colon tumor cells at a level that is at least two fold, and preferably at least five fold, greater than the level of expression in a normal tissue, as determined using a representative assay provided herein. Certain colon

25 tumor proteins are tumor proteins that react detectably (within an immunoassay, such as an ELISA or Western blot) with antisera of a patient afflicted with colon cancer. Polynucleotides of the subject invention generally comprise a DNA or RNA sequence that encodes all or a portion of such a polypeptide, or that is complementary to such a sequence. Antibodies are generally immune system proteins, or antigen-binding

30 fragments thereof, that are capable of binding to a polypeptide as described above.

Antigen presenting cells include dendritic cells, macrophages, monocytes, fibroblasts and B-cells that express a polypeptide as described above. T cells that may be employed within such compositions are generally T cells that are specific for a polypeptide as described above.

- 5 The present invention is based on the discovery of human colon tumor proteins. Sequences of polynucleotides encoding specific tumor proteins are provided in SEQ ID NO: 1-121, 123-197, 205-630 and 632-684, 686, 690-691, and 694-1081.

COLON TUMOR PROTEIN POLYNUCLEOTIDES

- 10 Any polynucleotide that encodes a colon tumor protein or a portion or other variant thereof as described herein is encompassed by the present invention. Preferred polynucleotides comprise at least 15 consecutive nucleotides, preferably at least 30 consecutive nucleotides and more preferably at least 45 consecutive nucleotides, that encode a portion of a colon tumor protein. More preferably, a
15 polynucleotide encodes an immunogenic portion of a colon tumor protein. Polynucleotides complementary to any such sequences are also encompassed by the present invention. Polynucleotides may be single-stranded (coding or antisense) or double-stranded, and may be DNA (genomic, cDNA or synthetic) or RNA molecules. RNA molecules include HnRNA molecules, which contain introns and correspond to
20 a DNA molecule in a one-to-one manner, and mRNA molecules, which do not contain introns. Additional coding or non-coding sequences may, but need not, be present within a polynucleotide of the present invention, and a polynucleotide may, but need not, be linked to other molecules and/or support materials.

- Polynucleotides may comprise a native sequence (*i.e.*, an endogenous
25 sequence that encodes a colon tumor protein or a portion thereof) or may comprise a variant of such a sequence. Polynucleotide variants may contain one or more substitutions, additions, deletions and/or insertions such that the immunogenicity of the encoded polypeptide is not diminished, relative to a native tumor protein. The effect on the immunogenicity of the encoded polypeptide may generally be assessed as
30 described herein. Variants preferably exhibit at least about 70% identity, more preferably at least about 80% identity and most preferably at least about 90% identity

to a polynucleotide sequence that encodes a native colon tumor protein or a portion thereof.

Two polynucleotide or polypeptide sequences are said to be “identical” if the sequence of nucleotides or amino acids in the two sequences is the same when
5 aligned for maximum correspondence as described below. Comparisons between two sequences are typically performed by comparing the sequences over a comparison window to identify and compare local regions of sequence similarity. A “comparison window” as used herein, refers to a segment of at least about 20 contiguous positions, usually 30 to about 75, in which a sequence may be compared to a reference sequence
10 of the same number of contiguous positions after the two sequences are optimally aligned.

Optimal alignment of sequences for comparison may be conducted using the Megalign program in the Lasergene suite of bioinformatics software (DNASTAR, Inc., Madison, WI), using default parameters. This program embodies
15 several alignment schemes described in the following references: Dayhoff, M.O. (1978) A model of evolutionary change in proteins – Matrices for detecting distant relationships. In Dayhoff, M.O. (ed.) Atlas of Protein Sequence and Structure, National Biomedical Research Foundation, Washington DC Vol. 5, Suppl. 3, pp. 345-358; Hein J. (1990) Unified Approach to Alignment and Phylogenies pp. 626-645
20 *Methods in Enzymology* vol. 183, Academic Press, Inc., San Diego, CA; Higgins, D.G. and Sharp, P.M. (1989) *CABIOS* 5:151-153; Myers, E.W. and Muller W. (1988) *CABIOS* 4:11-17; Robinson, E.D. (1971) *Comb. Theor* 11:105; Santou, N. Nes, M. (1987) *Mol. Biol. Evol.* 4:406-425; Sneath, P.H.A. and Sokal, R.R. (1973) *Numerical Taxonomy – the Principles and Practice of Numerical Taxonomy*, Freeman Press, San
25 Francisco, CA; Wilbur, W.J. and Lipman, D.J. (1983) *Proc. Natl. Acad., Sci. USA* 80:726-730.

Preferably, the “percentage of sequence identity” is determined by comparing two optimally aligned sequences over a window of comparison of at least 20 positions, wherein the portion of the polynucleotide or polypeptide sequence in the
30 comparison window may comprise additions or deletions (i.e. gaps) of 20 percent or less, usually 5 to 15 percent, or 10 to 12 percent, as compared to the reference

sequence (which does not comprise additions or deletions) for optimal alignment of the two sequences. The percentage is calculated by determining the number of positions at which the identical nucleic acid bases or amino acid residue occurs in both sequences to yield the number of matched positions, dividing the number of matched positions by the total number of positions in the reference sequence (i.e. the window size) and multiplying the results by 100 to yield the percentage of sequence identity.

Variants may also, or alternatively, be substantially homologous to a native gene, or a portion or complement thereof. Such polynucleotide variants are capable of hybridizing under moderately stringent conditions to a naturally occurring DNA sequence encoding a native colon tumor protein (or a complementary sequence). Suitable moderately stringent conditions include prewashing in a solution of 5 X SSC, 0.5% SDS, 1.0 mM EDTA (pH 8.0); hybridizing at 50°C-65°C, 5 X SSC, overnight; followed by washing twice at 65°C for 20 minutes with each of 2X, 0.5X and 0.2X SSC containing 0.1% SDS.

It will be appreciated by those of ordinary skill in the art that, as a result of the degeneracy of the genetic code, there are many nucleotide sequences that encode a polypeptide as described herein. Some of these polynucleotides bear minimal homology to the nucleotide sequence of any native gene. Nonetheless, polynucleotides that vary due to differences in codon usage are specifically contemplated by the present invention. Further, alleles of the genes comprising the polynucleotide sequences provided herein are within the scope of the present invention. Alleles are endogenous genes that are altered as a result of one or more mutations, such as deletions, additions and/or substitutions of nucleotides. The resulting mRNA and protein may, but need not, have an altered structure or function. Alleles may be identified using standard techniques (such as hybridization, amplification and/or database sequence comparison).

Polynucleotides may be prepared using any of a variety of techniques. For example, a polynucleotide may be identified, as described in more detail below, by screening a microarray of cDNAs for tumor-associated expression (*i.e.*, expression that is at least two fold greater in a colon tumor than in normal tissue, as determined

using a representative assay provided herein). Such screens may be performed using a Synteni microarray (Palo Alto, CA) according to the manufacturer's instructions (and essentially as described by Schena et al., *Proc. Natl. Acad. Sci. USA* 93:10614-10619, 1996 and Heller et al., *Proc. Natl. Acad. Sci. USA* 94:2150-2155, 1997).

5 Alternatively, polypeptides may be amplified from cDNA prepared from cells expressing the proteins described herein, such as colon tumor cells. Such polynucleotides may be amplified via polymerase chain reaction (PCR). For this approach, sequence-specific primers may be designed based on the sequences provided herein, and may be purchased or synthesized.

10 An amplified portion may be used to isolate a full length gene from a suitable library (e.g., a colon tumor cDNA library) using well known techniques. Within such techniques, a library (cDNA or genomic) is screened using one or more polynucleotide probes or primers suitable for amplification. Preferably, a library is size-selected to include larger molecules. Random primed libraries may also be preferred for identifying 5' and upstream regions of genes. Genomic libraries are preferred for obtaining introns and extending 5' sequences.

For hybridization techniques, a partial sequence may be labeled (e.g., by nick-translation or end-labeling with ^{32}P) using well known techniques. A bacterial or bacteriophage library is then screened by hybridizing filters containing denatured bacterial colonies (or lawns containing phage plaques) with the labeled probe (see Sambrook et al., *Molecular Cloning: A Laboratory Manual*, Cold Spring Harbor Laboratories, Cold Spring Harbor, NY, 1989). Hybridizing colonies or plaques are selected and expanded, and the DNA is isolated for further analysis. cDNA clones may be analyzed to determine the amount of additional sequence by, for example, PCR using a primer from the partial sequence and a primer from the vector. Restriction maps and partial sequences may be generated to identify one or more overlapping clones. The complete sequence may then be determined using standard techniques, which may involve generating a series of deletion clones. The resulting overlapping sequences are then assembled into a single contiguous sequence. A full length cDNA molecule can be generated by ligating suitable fragments, using well known techniques.

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25
30

Alternatively, there are numerous amplification techniques for obtaining a full length coding sequence from a partial cDNA sequence. Within such techniques, amplification is generally performed via PCR. Any of a variety of commercially available kits may be used to perform the amplification step. Primers
5 may be designed using, for example, software well known in the art. Primers are preferably 22-30 nucleotides in length, have a GC content of at least 50% and anneal to the target sequence at temperatures of about 68°C to 72°C. The amplified region may be sequenced as described above, and overlapping sequences assembled into a contiguous sequence.

10 One such amplification technique is inverse PCR (*see* Triglia et al., *Nucl. Acids Res.* 16:8186, 1988), which uses restriction enzymes to generate a fragment in the known region of the gene. The fragment is then circularized by intramolecular ligation and used as a template for PCR with divergent primers derived from the known region. Within an alternative approach, sequences adjacent to a
15 partial sequence may be retrieved by amplification with a primer to a linker sequence and a primer specific to a known region. The amplified sequences are typically subjected to a second round of amplification with the same linker primer and a second primer specific to the known region. A variation on this procedure, which employs two primers that initiate extension in opposite directions from the known sequence, is
20 described in WO 96/38591. Another such technique is known as "rapid amplification of cDNA ends" or RACE. This technique involves the use of an internal primer and an external primer, which hybridizes to a polyA region or vector sequence, to identify sequences that are 5' and 3' of a known sequence. Additional techniques include capture PCR (Lagerstrom et al., *PCR Methods Applic.* 1:111-19, 1991) and walking
25 PCR (Parker et al., *Nucl. Acids Res.* 19:3055-60, 1991). Other methods employing amplification may also be employed to obtain a full length cDNA sequence.

In certain instances, it is possible to obtain a full length cDNA sequence by analysis of sequences provided in an expressed sequence tag (EST) database, such as that available from GenBank. Searches for overlapping ESTs may
30 generally be performed using well known programs (*e.g.*, NCBI BLAST searches), and such ESTs may be used to generate a contiguous full length sequence.

Certain nucleic acid sequences of cDNA molecules encoding portions of colon tumor proteins are provided in SEQ ID NO: 1-121, 123-197, 205-630, 632-684, 686, 690-691, and 694-1081. These polynucleotides were isolated from colon tumor cDNA libraries using conventional and/or PCR-based subtraction techniques, as described below.

Polynucleotide variants may generally be prepared by any method known in the art, including chemical synthesis by, for example, solid phase phosphoramidite chemical synthesis. Modifications in a polynucleotide sequence may also be introduced using standard mutagenesis techniques, such as oligonucleotide-directed site-specific mutagenesis (*see* Adelman et al., *DNA* 2:183, 1983). Alternatively, RNA molecules may be generated by *in vitro* or *in vivo* transcription of DNA sequences encoding a colon tumor protein, or portion thereof, provided that the DNA is incorporated into a vector with a suitable RNA polymerase promoter (such as T7 or SP6). Certain portions may be used to prepare an encoded polypeptide, as described herein. In addition, or alternatively, a portion may be administered to a patient such that the encoded polypeptide is generated *in vivo* (e.g., by transfecting antigen-presenting cells, such as dendritic cells, with a cDNA construct encoding a colon tumor polypeptide, and administering the transfected cells to the patient).

A portion of a sequence complementary to a coding sequence (*i.e.*, an antisense polynucleotide) may also be used as a probe or to modulate gene expression. cDNA constructs that can be transcribed into antisense RNA may also be introduced into cells of tissues to facilitate the production of antisense RNA. An antisense polynucleotide may be used, as described herein, to inhibit expression of a tumor protein. Antisense technology can be used to control gene expression through triple-helix formation, which compromises the ability of the double helix to open sufficiently for the binding of polymerases, transcription factors or regulatory molecules (*see* Gee et al., *In* Huber and Carr, *Molecular and Immunologic Approaches*, Futura Publishing Co. (Mt. Kisco, NY; 1994)). Alternatively, an antisense molecule may be designed to hybridize with a control region of a gene (e.g., promoter, enhancer or transcription initiation site), and block transcription of the gene; or to block translation by inhibiting binding of a transcript to ribosomes.

A portion of a coding sequence, or of a complementary sequence, may also be designed as a probe or primer to detect gene expression. Probes may be labeled with a variety of reporter groups, such as radionuclides and enzymes, and are preferably at least 10 nucleotides in length, more preferably at least 20 nucleotides in
5 length and still more preferably at least 30 nucleotides in length. Primers, as noted above, are preferably 22-30 nucleotides in length.

Any polynucleotide may be further modified to increase stability *in vivo*. Possible modifications include, but are not limited to, the addition of flanking sequences at the 5' and/or 3' ends; the use of phosphorothioate or 2' O-methyl rather
10 than phosphodiesterase linkages in the backbone; and/or the inclusion of nontraditional bases such as inosine, queosine and wybutosine, as well as acetyl-methyl-, thio- and other modified forms of adenine, cytidine, guanine, thymine and uridine.

Nucleotide sequences as described herein may be joined to a variety of
15 other nucleotide sequences using established recombinant DNA techniques. For example, a polynucleotide may be cloned into any of a variety of cloning vectors, including plasmids, phagemids, lambda phage derivatives and cosmids. Vectors of particular interest include expression vectors, replication vectors, probe generation vectors and sequencing vectors. In general, a vector will contain an origin of
20 replication functional in at least one organism, convenient restriction endonuclease sites and one or more selectable markers. Other elements will depend upon the desired use, and will be apparent to those of ordinary skill in the art.

Within certain embodiments, polynucleotides may be formulated so as to permit entry into a cell of a mammal, and expression therein. Such formulations
25 are particularly useful for therapeutic purposes, as described below. Those of ordinary skill in the art will appreciate that there are many ways to achieve expression of a polynucleotide in a target cell, and any suitable method may be employed. For example, a polynucleotide may be incorporated into a viral vector such as, but not limited to, adenovirus, adeno-associated virus, retrovirus, or vaccinia or other pox
30 virus (*e.g.*, avian pox virus). Techniques for incorporating DNA into such vectors are well known to those of ordinary skill in the art. A retroviral vector may additionally

transfer or incorporate a gene for a selectable marker (to aid in the identification or selection of transduced cells) and/or a targeting moiety, such as a gene that encodes a ligand for a receptor on a specific target cell, to render the vector target specific. Targeting may also be accomplished using an antibody, by methods known to those of ordinary skill in the art.

Other formulations for therapeutic purposes include colloidal dispersion systems, such as macromolecule complexes, nanocapsules, microspheres, beads, and lipid-based systems including oil-in-water emulsions, micelles, mixed micelles, and liposomes. A preferred colloidal system for use as a delivery vehicle *in vitro* and *in vivo* is a liposome (*i.e.*, an artificial membrane vesicle). The preparation and use of such systems is well known in the art.

COLON TUMOR POLYPEPTIDES

Within the context of the present invention, polypeptides may comprise at least an immunogenic portion of a colon tumor protein or a variant thereof, as described herein. As noted above, a "colon tumor protein" is a protein that is expressed by colon tumor cells. Proteins that are colon tumor proteins also react detectably within an immunoassay (such as an ELISA) with antisera from a patient with colon cancer. Polypeptides as described herein may be of any length. Additional sequences derived from the native protein and/or heterologous sequences may be present, and such sequences may (but need not) possess further immunogenic or antigenic properties.

An "immunogenic portion," as used herein is a portion of a protein that is recognized (*i.e.*, specifically bound) by a B-cell and/or T-cell surface antigen receptor. Such immunogenic portions generally comprise at least 5 amino acid residues, more preferably at least 10, and still more preferably at least 20 amino acid residues of a colon tumor protein or a variant thereof. Certain preferred immunogenic portions include peptides in which an N-terminal leader sequence and/or transmembrane domain have been deleted. Other preferred immunogenic portions may contain a small N- and/or C-terminal deletion (*e.g.*, 1-30 amino acids, preferably 5-15 amino acids), relative to the mature protein.

Immunogenic portions may generally be identified using well known techniques, such as those summarized in Paul, *Fundamental Immunology*, 3rd ed., 243-247 (Raven Press, 1993) and references cited therein. Such techniques include screening polypeptides for the ability to react with antigen-specific antibodies, antisera and/or T-cell lines or clones. As used herein, antisera and antibodies are "antigen-specific" if they specifically bind to an antigen (*i.e.*, they react with the protein in an ELISA or other immunoassay, and do not react detectably with unrelated proteins). Such antisera and antibodies may be prepared as described herein, and using well known techniques. An immunogenic portion of a native colon tumor protein is a portion that reacts with such antisera and/or T-cells at a level that is not substantially less than the reactivity of the full length polypeptide (*e.g.*, in an ELISA and/or T-cell reactivity assay). Such immunogenic portions may react within such assays at a level that is similar to or greater than the reactivity of the full length polypeptide. Such screens may generally be performed using methods well known to those of ordinary skill in the art, such as those described in Harlow and Lane, *Antibodies: A Laboratory Manual*, Cold Spring Harbor Laboratory, 1988. For example, a polypeptide may be immobilized on a solid support and contacted with patient sera to allow binding of antibodies within the sera to the immobilized polypeptide. Unbound sera may then be removed and bound antibodies detected using, for example, ¹²⁵I-labeled Protein A.

As noted above, a composition may comprise a variant of a native colon tumor protein. A polypeptide "variant," as used herein, is a polypeptide that differs from a native colon tumor protein in one or more substitutions, deletions, additions and/or insertions, such that the immunogenicity of the polypeptide is not substantially diminished. In other words, the ability of a variant to react with antigen-specific antisera may be enhanced or unchanged, relative to the native protein, or may be diminished by less than 50%, and preferably less than 20%, relative to the native protein. Such variants may generally be identified by modifying one of the above polypeptide sequences and evaluating the reactivity of the modified polypeptide with antigen-specific antibodies or antisera as described herein. Preferred variants include those in which one or more portions, such as an N-terminal leader sequence or transmembrane domain, have been removed. Other preferred variants include variants

in which a small portion (*e.g.*, 1-30 amino acids, preferably 5-15 amino acids) has been removed from the N- and/or C-terminal of the mature protein.

Polypeptide variants preferably exhibit at least about 70%, more preferably at least about 90% and most preferably at least about 95% identity
5 (determined as described above) to the identified polypeptides.

Preferably, a variant contains conservative substitutions. A "conservative substitution" is one in which an amino acid is substituted for another amino acid that has similar properties, such that one skilled in the art of peptide chemistry would expect the secondary structure and hydropathic nature of the
10 polypeptide to be substantially unchanged. Amino acid substitutions may generally be made on the basis of similarity in polarity, charge, solubility, hydrophobicity, hydrophilicity and/or the amphipathic nature of the residues. For example, negatively charged amino acids include aspartic acid and glutamic acid; positively charged amino acids include lysine and arginine; and amino acids with uncharged polar head groups
15 having similar hydrophilicity values include leucine, isoleucine and valine; glycine and alanine; asparagine and glutamine; and serine, threonine, phenylalanine and tyrosine. Other groups of amino acids that may represent conservative changes include: (1) ala, pro, gly, glu, asp, gln, asn, ser, thr; (2) cys, ser, tyr, thr; (3) val, ile, leu, met, ala, phe; (4) lys, arg, his; and (5) phe, tyr, trp, his. A variant may also, or
20 alternatively, contain non-conservative changes. In a preferred embodiment, variant polypeptides differ from a native sequence by substitution, deletion or addition of five amino acids or fewer. Variants may also (or alternatively) be modified by, for example, the deletion or addition of amino acids that have minimal influence on the immunogenicity, secondary structure and hydropathic nature of the polypeptide.

25 As noted above, polypeptides may comprise a signal (or leader) sequence at the N-terminal end of the protein which co-translationally or post-translationally directs transfer of the protein. The polypeptide may also be conjugated to a linker or other sequence for ease of synthesis, purification or identification of the polypeptide (*e.g.*, poly-His), or to enhance binding of the polypeptide to a solid
30 support. For example, a polypeptide may be conjugated to an immunoglobulin Fc region.

Polypeptides may be prepared using any of a variety of well known techniques. Recombinant polypeptides encoded by DNA sequences as described above may be readily prepared from the DNA sequences using any of a variety of expression vectors known to those of ordinary skill in the art. Expression may be achieved in any appropriate host cell that has been transformed or transfected with an expression vector containing a DNA molecule that encodes a recombinant polypeptide. Suitable host cells include prokaryotes, yeast and higher eukaryotic cells. Preferably, the host cells employed are *E. coli*, yeast or a mammalian cell line such as COS or CHO. Supernatants from suitable host/vector systems which secrete recombinant protein or polypeptide into culture media may be first concentrated using a commercially available filter. Following concentration, the concentrate may be applied to a suitable purification matrix such as an affinity matrix or an ion exchange resin. Finally, one or more reverse phase HPLC steps can be employed to further purify a recombinant polypeptide.

Portions and other variants having fewer than about 100 amino acids, and generally fewer than about 50 amino acids, may also be generated by synthetic means, using techniques well known to those of ordinary skill in the art. For example, such polypeptides may be synthesized using any of the commercially available solid-phase techniques, such as the Merrifield solid-phase synthesis method, where amino acids are sequentially added to a growing amino acid chain. See Merrifield, *J. Am. Chem. Soc.* 85:2149-2146, 1963. Equipment for automated synthesis of polypeptides is commercially available from suppliers such as Perkin Elmer/Applied BioSystems Division (Foster City, CA), and may be operated according to the manufacturer's instructions.

Within certain specific embodiments, a polypeptide may be a fusion protein that comprises multiple polypeptides as described herein, or that comprises at least one polypeptide as described herein and an unrelated sequence, such as a known tumor protein. A fusion partner may, for example, assist in providing T helper epitopes (an immunological fusion partner), preferably T helper epitopes recognized by humans, or may assist in expressing the protein (an expression enhancer) at higher yields than the native recombinant protein. Certain preferred fusion partners are both

immunological and expression enhancing fusion partners. Other fusion partners may be selected so as to increase the solubility of the protein or to enable the protein to be targeted to desired intracellular compartments. Still further fusion partners include affinity tags, which facilitate purification of the protein.

5 Fusion proteins may generally be prepared using standard techniques, including chemical conjugation. Preferably, a fusion protein is expressed as a recombinant protein, allowing the production of increased levels, relative to a non-fused protein, in an expression system. Briefly, DNA sequences encoding the polypeptide components may be assembled separately, and ligated into an appropriate
10 expression vector. The 3' end of the DNA sequence encoding one polypeptide component is ligated, with or without a peptide linker, to the 5' end of a DNA sequence encoding the second polypeptide component so that the reading frames of the sequences are in phase. This permits translation into a single fusion protein that retains the biological activity of both component polypeptides.

15 A peptide linker sequence may be employed to separate the first and the second polypeptide components by a distance sufficient to ensure that each polypeptide folds into its secondary and tertiary structures. Such a peptide linker sequence is incorporated into the fusion protein using standard techniques well known in the art. Suitable peptide linker sequences may be chosen based on the following
20 factors: (1) their ability to adopt a flexible extended conformation; (2) their inability to adopt a secondary structure that could interact with functional epitopes on the first and second polypeptides; and (3) the lack of hydrophobic or charged residues that might react with the polypeptide functional epitopes. Preferred peptide linker sequences contain Gly, Asn and Ser residues. Other near neutral amino acids, such as
25 Thr and Ala may also be used in the linker sequence. Amino acid sequences which may be usefully employed as linkers include those disclosed in Maratea et al., *Gene* 40:39-46, 1985; Murphy et al., *Proc. Natl. Acad. Sci. USA* 83:8258-8262, 1986; U.S. Patent No. 4,935,233 and U.S. Patent No. 4,751,180. The linker sequence may generally be from 1 to about 50 amino acids in length. Linker sequences are not
30 required when the first and second polypeptides have non-essential N-terminal amino

acid regions that can be used to separate the functional domains and prevent steric interference.

The ligated DNA sequences are operably linked to suitable transcriptional or translational regulatory elements. The regulatory elements
5 responsible for expression of DNA are located only 5' to the DNA sequence encoding the first polypeptides. Similarly, stop codons required to end translation and transcription termination signals are only present 3' to the DNA sequence encoding the second polypeptide.

Fusion proteins are also provided that comprise a polypeptide of the
10 present invention together with an unrelated immunogenic protein. Preferably the immunogenic protein is capable of eliciting a recall response. Examples of such proteins include tetanus, tuberculosis and hepatitis proteins (*see*, for example, Stoute et al. *New Engl. J. Med.*, 336:86-91, 1997).

Within preferred embodiments, an immunological fusion partner is
15 derived from protein D, a surface protein of the gram-negative bacterium *Haemophilus influenza B* (WO 91/18926). Preferably, a protein D derivative comprises approximately the first third of the protein (*e.g.*, the first N-terminal 100-110 amino acids), and a protein D derivative may be lipidated. Within certain preferred embodiments, the first 109 residues of a Lipoprotein D fusion partner is
20 included on the N-terminus to provide the polypeptide with additional exogenous T-cell epitopes and to increase the expression level in *E. coli* (thus functioning as an expression enhancer). The lipid tail ensures optimal presentation of the antigen to antigen presenting cells. Other fusion partners include the non-structural protein from influenzae virus, NS1 (hemagglutinin). Typically, the N-terminal 81 amino acids are
25 used, although different fragments that include T-helper epitopes may be used.

In another embodiment, the immunological fusion partner is the protein known as LYTA, or a portion thereof (preferably a C-terminal portion). LYTA is derived from *Streptococcus pneumoniae*, which synthesizes an N-acetyl-L-alanine amidase known as amidase LYTA (encoded by the *LytA* gene; *Gene* 43:265-292,
30 1986). LYTA is an autolysin that specifically degrades certain bonds in the peptidoglycan backbone. The C-terminal domain of the LYTA protein is responsible

for the affinity to the choline or to some choline analogues such as DEAE. This property has been exploited for the development of *E. coli* C-LYTA expressing plasmids useful for expression of fusion proteins. Purification of hybrid proteins containing the C-LYTA fragment at the amino terminus has been described (*see* 5 *Biotechnology* 10:795-798, 1992). Within a preferred embodiment, a repeat portion of LYTA may be incorporated into a fusion protein. A repeat portion is found in the C-terminal region starting at residue 178. A particularly preferred repeat portion incorporates residues 188-305.

In general, polypeptides (including fusion proteins) and 10 polynucleotides as described herein are isolated. An "isolated" polypeptide or polynucleotide is one that is removed from its original environment. For example, a naturally-occurring protein is isolated if it is separated from some or all of the coexisting materials in the natural system. Preferably, such polypeptides are at least about 90% pure, more preferably at least about 95% pure and most preferably at least 15 about 99% pure. A polynucleotide is considered to be isolated if, for example, it is cloned into a vector that is not a part of the natural environment.

BINDING AGENTS

The present invention further provides agents, such as antibodies and 20 antigen-binding fragments thereof, that specifically bind to a colon tumor protein. As used herein, an antibody, or antigen-binding fragment thereof, is said to "specifically bind" to a colon tumor protein if it reacts at a detectable level (within, for example, an ELISA) with a colon tumor protein, and does not react detectably with unrelated proteins under similar conditions. As used herein, "binding" refers to a noncovalent 25 association between two separate molecules such that a complex is formed. The ability to bind may be evaluated by, for example, determining a binding constant for the formation of the complex. The binding constant is the value obtained when the concentration of the complex is divided by the product of the component concentrations. In general, two compounds are said to "bind," in the context of the 30 present invention, when the binding constant for complex formation exceeds about

10^3 L/mol. The binding constant may be determined using methods well known in the art.

Binding agents may be further capable of differentiating between patients with and without a cancer, such as colon cancer, using the representative assays provided herein. In other words, antibodies or other binding agents that bind to a colon tumor protein will generate a signal indicating the presence of a cancer in at least about 20% of patients with the disease, and will generate a negative signal indicating the absence of the disease in at least about 90% of individuals without the cancer. To determine whether a binding agent satisfies this requirement, biological samples (e.g., blood, sera, sputum, urine and/or tumor biopsies) from patients with and without a cancer (as determined using standard clinical tests) may be assayed as described herein for the presence of polypeptides that bind to the binding agent. It will be apparent that a statistically significant number of samples with and without the disease should be assayed. Each binding agent should satisfy the above criteria; however, those of ordinary skill in the art will recognize that binding agents may be used in combination to improve sensitivity.

Any agent that satisfies the above requirements may be a binding agent. For example, a binding agent may be a ribosome, with or without a peptide component, an RNA molecule or a polypeptide. In a preferred embodiment, a binding agent is an antibody or an antigen-binding fragment thereof. Antibodies may be prepared by any of a variety of techniques known to those of ordinary skill in the art. See, e.g., Harlow and Lane, *Antibodies: A Laboratory Manual*, Cold Spring Harbor Laboratory, 1988. In general, antibodies can be produced by cell culture techniques, including the generation of monoclonal antibodies as described herein, or via transfection of antibody genes into suitable bacterial or mammalian cell hosts, in order to allow for the production of recombinant antibodies. In one technique, an immunogen comprising the polypeptide is initially injected into any of a wide variety of mammals (e.g., mice, rats, rabbits, sheep or goats). In this step, the polypeptides of this invention may serve as the immunogen without modification. Alternatively, particularly for relatively short polypeptides, a superior immune response may be elicited if the polypeptide is joined to a carrier protein, such as bovine serum albumin

or keyhole limpet hemocyanin. The immunogen is injected into the animal host, preferably according to a predetermined schedule incorporating one or more booster immunizations, and the animals are bled periodically. Polyclonal antibodies specific for the polypeptide may then be purified from such antisera by, for example, affinity chromatography using the polypeptide coupled to a suitable solid support.

Monoclonal antibodies specific for an antigenic polypeptide of interest may be prepared, for example, using the technique of Kohler and Milstein, *Eur. J. Immunol.* 6:511-519, 1976, and improvements thereto. Briefly, these methods involve the preparation of immortal cell lines capable of producing antibodies having the desired specificity (*i.e.*, reactivity with the polypeptide of interest). Such cell lines may be produced, for example, from spleen cells obtained from an animal immunized as described above. The spleen cells are then immortalized by, for example, fusion with a myeloma cell fusion partner, preferably one that is syngeneic with the immunized animal. A variety of fusion techniques may be employed. For example, the spleen cells and myeloma cells may be combined with a nonionic detergent for a few minutes and then plated at low density on a selective medium that supports the growth of hybrid cells, but not myeloma cells. A preferred selection technique uses HAT (hypoxanthine, aminopterin, thymidine) selection. After a sufficient time, usually about 1 to 2 weeks, colonies of hybrids are observed. Single colonies are selected and their culture supernatants tested for binding activity against the polypeptide. Hybridomas having high reactivity and specificity are preferred.

Monoclonal antibodies may be isolated from the supernatants of growing hybridoma colonies. In addition, various techniques may be employed to enhance the yield, such as injection of the hybridoma cell line into the peritoneal cavity of a suitable vertebrate host, such as a mouse. Monoclonal antibodies may then be harvested from the ascites fluid or the blood. Contaminants may be removed from the antibodies by conventional techniques, such as chromatography, gel filtration, precipitation, and extraction. The polypeptides of this invention may be used in the purification process in, for example, an affinity chromatography step.

Within certain embodiments, the use of antigen-binding fragments of antibodies may be preferred. Such fragments include Fab fragments, which may be

prepared using standard techniques. Briefly, immunoglobulins may be purified from rabbit serum by affinity chromatography on Protein A bead columns (Harlow and Lane, *Antibodies: A Laboratory Manual*, Cold Spring Harbor Laboratory, 1988) and digested by papain to yield Fab and Fc fragments. The Fab and Fc fragments may be
5 separated by affinity chromatography on protein A bead columns.

Monoclonal antibodies of the present invention may be coupled to one or more therapeutic agents. Suitable agents in this regard include radionuclides, differentiation inducers, drugs, toxins, and derivatives thereof. Preferred radionuclides include ^{90}Y , ^{123}I , ^{125}I , ^{131}I , ^{186}Re , ^{188}Re , ^{211}At , and ^{212}Bi . Preferred drugs
10 include methotrexate, and pyrimidine and purine analogs. Preferred differentiation inducers include phorbol esters and butyric acid. Preferred toxins include ricin, abrin, diphtheria toxin, cholera toxin, gelonin, *Pseudomonas* exotoxin, *Shigella* toxin, and pokeweed antiviral protein.

A therapeutic agent may be coupled (*e.g.*, covalently bonded) to a
15 suitable monoclonal antibody either directly or indirectly (*e.g.*, via a linker group). A direct reaction between an agent and an antibody is possible when each possesses a substituent capable of reacting with the other. For example, a nucleophilic group, such as an amino or sulfhydryl group, on one may be capable of reacting with a carbonyl-containing group, such as an anhydride or an acid halide, or with an alkyl
20 group containing a good leaving group (*e.g.*, a halide) on the other.

Alternatively, it may be desirable to couple a therapeutic agent and an antibody via a linker group. A linker group can function as a spacer to distance an antibody from an agent in order to avoid interference with binding capabilities. A linker group can also serve to increase the chemical reactivity of a substituent on an
25 agent or an antibody, and thus increase the coupling efficiency. An increase in chemical reactivity may also facilitate the use of agents, or functional groups on agents, which otherwise would not be possible.

It will be evident to those skilled in the art that a variety of bifunctional or polyfunctional reagents, both homo- and hetero-functional (such as those described
30 in the catalog of the Pierce Chemical Co., Rockford, IL), may be employed as the linker group. Coupling may be effected, for example, through amino groups, carboxyl

groups, sulfhydryl groups or oxidized carbohydrate residues. There are numerous references describing such methodology, *e.g.*, U.S. Patent No. 4,671,958, to Rodwell et al.

Where a therapeutic agent is more potent when free from the antibody
5 portion of the immunoconjugates of the present invention, it may be desirable to use a linker group which is cleavable during or upon internalization into a cell. A number of different cleavable linker groups have been described. The mechanisms for the intracellular release of an agent from these linker groups include cleavage by reduction of a disulfide bond (*e.g.*, U.S. Patent No. 4,489,710, to Spitler), by
10 irradiation of a photolabile bond (*e.g.*, U.S. Patent No. 4,625,014, to Senter et al.), by hydrolysis of derivatized amino acid side chains (*e.g.*, U.S. Patent No. 4,638,045, to Kohn et al.), by serum complement-mediated hydrolysis (*e.g.*, U.S. Patent No. 4,671,958, to Rodwell et al.), and acid-catalyzed hydrolysis (*e.g.*, U.S. Patent No. 4,569,789, to Blattler et al.).

15 It may be desirable to couple more than one agent to an antibody. In one embodiment, multiple molecules of an agent are coupled to one antibody molecule. In another embodiment, more than one type of agent may be coupled to one antibody. Regardless of the particular embodiment, immunoconjugates with more than one agent may be prepared in a variety of ways. For example, more than one
20 agent may be coupled directly to an antibody molecule, or linkers which provide multiple sites for attachment can be used. Alternatively, a carrier can be used.

A carrier may bear the agents in a variety of ways, including covalent bonding either directly or via a linker group. Suitable carriers include proteins such as albumins (*e.g.*, U.S. Patent No. 4,507,234, to Kato et al.), peptides and
25 polysaccharides such as aminodextran (*e.g.*, U.S. Patent No. 4,699,784, to Shih et al.). A carrier may also bear an agent by noncovalent bonding or by encapsulation, such as within a liposome vesicle (*e.g.*, U.S. Patent Nos. 4,429,008 and 4,873,088). Carriers specific for radionuclide agents include radiohalogenated small molecules and chelating compounds. For example, U.S. Patent No. 4,735,792 discloses
30 representative radiohalogenated small molecules and their synthesis. A radionuclide chelate may be formed from chelating compounds that include those containing

nitrogen and sulfur atoms as the donor atoms for binding the metal, or metal oxide, radionuclide. For example, U.S. Patent No. 4,673,562, to Davison et al. discloses representative chelating compounds and their synthesis.

A variety of routes of administration for the antibodies and
5 immunoconjugates may be used. Typically, administration will be intravenous, intramuscular, subcutaneous or in the bed of a resected tumor. It will be evident that the precise dose of the antibody/immunoconjugate will vary depending upon the antibody used, the antigen density on the tumor, and the rate of clearance of the antibody.

10

T CELLS

Immunotherapeutic compositions may also, or alternatively, comprise T cells specific for a colon tumor protein. Such cells may generally be prepared *in vitro* or *ex vivo*, using standard procedures. For example, T cells may be isolated from
15 bone marrow, peripheral blood, or a fraction of bone marrow or peripheral blood of a patient, using a commercially available cell separation system, such as the ISOLEX™ system, available from Nexell Therapeutics Inc., Irvine, CA. Alternatively, T cells may be derived from related or unrelated humans, non-human mammals, cell lines or cultures.

20 T cells may be stimulated with a colon tumor polypeptide, polynucleotide encoding a colon tumor polypeptide and/or an antigen presenting cell (APC) that expresses such a polypeptide. Such stimulation is performed under conditions and for a time sufficient to permit the generation of T cells that are specific for the polypeptide. Preferably, a colon tumor polypeptide or polynucleotide is
25 present within a delivery vehicle, such as a microsphere, to facilitate the generation of specific T cells.

T cells are considered to be specific for a colon tumor polypeptide if the T cells kill target cells coated with the polypeptide or expressing a gene encoding the polypeptide. T cell specificity may be evaluated using any of a variety of standard
30 techniques. For example, within a chromium release assay or proliferation assay, a stimulation index of more than two fold increase in lysis and/or proliferation,

compared to negative controls, indicates T cell specificity. Such assays may be performed, for example, as described in Chen et al., *Cancer Res.* 54:1065-1070, 1994. Alternatively, detection of the proliferation of T cells may be accomplished by a variety of known techniques. For example, T cell proliferation can be detected by
5 measuring an increased rate of DNA synthesis (e.g., by pulse-labeling cultures of T cells with tritiated thymidine and measuring the amount of tritiated thymidine incorporated into DNA). Contact with a colon tumor polypeptide (100 ng/ml - 100 µg/ml, preferably 200 ng/ml - 25 µg/ml) for 3 - 7 days should result in at least a two fold increase in proliferation of the T cells. Contact as described above for 2-3 hours
10 should result in activation of the T cells, as measured using standard cytokine assays in which a two fold increase in the level of cytokine release (e.g., TNF or IFN-γ) is indicative of T cell activation (see Coligan et al., Current Protocols in Immunology, vol. 1, Wiley Interscience (Greene 1998)). T cells that have been activated in response to a colon tumor polypeptide, polynucleotide or polypeptide-expressing APC
15 may be CD4⁺ and/or CD8⁺. Colon tumor protein-specific T cells may be expanded using standard techniques. Within preferred embodiments, the T cells are derived from either a patient or a related, or unrelated, donor and are administered to the patient following stimulation and expansion.

For therapeutic purposes, CD4⁺ or CD8⁺ T cells that proliferate in
20 response to a colon tumor polypeptide, polynucleotide or APC can be expanded in number either *in vitro* or *in vivo*. Proliferation of such T cells *in vitro* may be accomplished in a variety of ways. For example, the T cells can be re-exposed to a colon tumor polypeptide, or a short peptide corresponding to an immunogenic portion of such a polypeptide, with or without the addition of T cell growth factors, such as
25 interleukin-2, and/or stimulator cells that synthesize a colon tumor polypeptide. Alternatively, one or more T cells that proliferate in the presence of a colon tumor protein can be expanded in number by cloning. Methods for cloning cells are well known in the art, and include limiting dilution.

30 PHARMACEUTICAL COMPOSITIONS AND VACCINES

Within certain aspects, polypeptides, polynucleotides, T cells and/or

binding agents disclosed herein may be incorporated into pharmaceutical compositions or immunogenic compositions (*i.e.*, vaccines). Pharmaceutical compositions comprise one or more such compounds and a physiologically acceptable carrier. Vaccines may comprise one or more such compounds and an immunostimulant. An immunostimulant may be any substance that enhances or potentiates an immune response to an exogenous antigen. Examples of immunostimulants include adjuvants, biodegradable microspheres (*e.g.*, polylactic galactide) and liposomes (into which the compound is incorporated; *see e.g.*, Fullerton, U.S. Patent No. 4,235,877). Vaccine preparation is generally described in, for example, M.F. Powell and M.J. Newman, eds., "Vaccine Design (the subunit and adjuvant approach)," Plenum Press (NY, 1995). Pharmaceutical compositions and vaccines within the scope of the present invention may also contain other compounds, which may be biologically active or inactive. For example, one or more immunogenic portions of other tumor antigens may be present, either incorporated into a fusion polypeptide or as a separate compound, within the composition or vaccine.

A pharmaceutical composition or vaccine may contain DNA encoding one or more of the polypeptides as described above, such that the polypeptide is generated *in situ*. As noted above, the DNA may be present within any of a variety of delivery systems known to those of ordinary skill in the art, including nucleic acid expression systems, bacteria and viral expression systems. Numerous gene delivery techniques are well known in the art, such as those described by Rolland, *Crit. Rev. Therap. Drug Carrier Systems* 15:143-198, 1998, and references cited therein. Appropriate nucleic acid expression systems contain the necessary DNA sequences for expression in the patient (such as a suitable promoter and terminating signal). Bacterial delivery systems involve the administration of a bacterium (such as *Bacillus Calmette-Guerrin*) that expresses an immunogenic portion of the polypeptide on its cell surface or secretes such an epitope. In a preferred embodiment, the DNA may be introduced using a viral expression system (*e.g.*, vaccinia or other pox virus, retrovirus, or adenovirus), which may involve the use of a non-pathogenic (defective), replication competent virus. Suitable systems are disclosed, for example, in Fisher-Hoch et al., *Proc. Natl. Acad. Sci. USA* 86:317-321, 1989; Flexner et al., *Ann. N.Y.*

Acad. Sci. 569:86-103, 1989; Flexner et al., *Vaccine* 8:17-21, 1990; U.S. Patent Nos. 4,603,112, 4,769,330, and 5,017,487; WO 89/01973; U.S. Patent No. 4,777,127; GB 2,200,651; EP 0,345,242; WO 91/02805; Berkner, *Biotechniques* 6:616-627, 1988; Rosenfeld et al., *Science* 252:431-434, 1991; Kolls et al., *Proc. Natl. Acad. Sci. USA* 91:215-219, 1994; Kass-Eisler et al., *Proc. Natl. Acad. Sci. USA* 90:11498-11502, 1993; Guzman et al., *Circulation* 88:2838-2848, 1993; and Guzman et al., *Cir. Res.* 73:1202-1207, 1993. Techniques for incorporating DNA into such expression systems are well known to those of ordinary skill in the art. The DNA may also be "naked," as described, for example, in Ulmer et al., *Science* 259:1745-1749, 1993 and reviewed by Cohen, *Science* 259:1691-1692, 1993. The uptake of naked DNA may be increased by coating the DNA onto biodegradable beads, which are efficiently transported into the cells.

While any suitable carrier known to those of ordinary skill in the art may be employed in the pharmaceutical compositions of this invention, the type of carrier will vary depending on the mode of administration. Compositions of the present invention may be formulated for any appropriate manner of administration, including for example, topical, oral, nasal, intravenous, intracranial, intraperitoneal, subcutaneous or intramuscular administration. For parenteral administration, such as subcutaneous injection, the carrier preferably comprises water, saline, alcohol, a fat, a wax or a buffer. For oral administration, any of the above carriers or a solid carrier, such as mannitol, lactose, starch, magnesium stearate, sodium saccharine, talcum, cellulose, glucose, sucrose, and magnesium carbonate, may be employed. Biodegradable microspheres (e.g., polylactate polyglycolate) may also be employed as carriers for the pharmaceutical compositions of this invention. Suitable biodegradable microspheres are disclosed, for example, in U.S. Patent Nos. 4,897,268 and 5,075,109.

Such compositions may also comprise buffers (e.g., neutral buffered saline or phosphate buffered saline), carbohydrates (e.g., glucose, mannose, sucrose or dextrans), mannitol, proteins, polypeptides or amino acids such as glycine, antioxidants, chelating agents such as EDTA or glutathione, adjuvants (e.g., aluminum hydroxide) and/or preservatives. Alternatively, compositions of the present

invention may be formulated as a lyophilizate. Compounds may also be encapsulated within liposomes using well known technology.

Any of a variety of immunostimulants may be employed in the vaccines of this invention. For example, an adjuvant may be included. Most
5 adjuvants contain a substance designed to protect the antigen from rapid catabolism, such as aluminum hydroxide or mineral oil, and a stimulator of immune responses, such as lipid A, *Bordetella pertussis* or *Mycobacterium tuberculosis* derived proteins. Suitable adjuvants are commercially available as, for example, Freund's Incomplete Adjuvant and Complete Adjuvant (Difco Laboratories, Detroit, MI); Merck Adjuvant
10 65 (Merck and Company, Inc., Rahway, NJ); AS-2 (SmithKline Beecham, Philadelphia, PA); aluminum salts such as aluminum hydroxide gel (alum) or aluminum phosphate; salts of calcium, iron or zinc; an insoluble suspension of acylated tyrosine; acylated sugars; cationically or anionically derivatized polysaccharides; polyphosphazenes; biodegradable microspheres; monophosphoryl
15 lipid A and quil A. Cytokines, such as GM-CSF or interleukin-2, -7, or -12, may also be used as adjuvants.

Within the vaccines provided herein, the adjuvant composition is preferably designed to induce an immune response predominantly of the Th1 type. High levels of Th1-type cytokines (e.g., IFN- γ , TNF α , IL-2 and IL-12) tend to favor
20 the induction of cell mediated immune responses to an administered antigen. In contrast, high levels of Th2-type cytokines (e.g., IL-4, IL-5, IL-6 and IL-10) tend to favor the induction of humoral immune responses. Following application of a vaccine as provided herein, a patient will support an immune response that includes Th1- and Th2-type responses. Within a preferred embodiment, in which a response is
25 predominantly Th1-type, the level of Th1-type cytokines will increase to a greater extent than the level of Th2-type cytokines. The levels of these cytokines may be readily assessed using standard assays. For a review of the families of cytokines, see Mosmann and Coffman, *Ann. Rev. Immunol.* 7:145-173, 1989.

Preferred adjuvants for use in eliciting a predominantly Th1-type
30 response include, for example, a combination of monophosphoryl lipid A, preferably 3-de-O-acylated monophosphoryl lipid A (3D-MPL), together with an aluminum salt.

MPL adjuvants are available from Corixa Corp. (Seattle, WA) (*see* US Patent Nos. 4,436,727; 4,877,611; 4,866,034 and 4,912,094). CpG-containing oligonucleotides (in which the CpG dinucleotide is unmethylated) also induce a predominantly Th1 response. Such oligonucleotides are well known and are described, for example, in
5 WO 96/02555 and WO 99/33488. Immunostimulatory DNA sequences are also described, for example, by Sato et al., *Science* 273:352, 1996. Another preferred adjuvant is a saponin, preferably QS21 (Aquila Biopharmaceuticals Inc., Framingham, MA), which may be used alone or in combination with other adjuvants. For example, an enhanced system involves the combination of a monophosphoryl lipid A and
10 saponin derivative, such as the combination of QS21 and 3D-MPL as described in WO 94/00153, or a less reactogenic composition where the QS21 is quenched with cholesterol, as described in WO 96/33739. Other preferred formulations comprises an oil-in-water emulsion and tocopherol. A particularly potent adjuvant formulation involving QS21, 3D-MPL and tocopherol in an oil-in-water emulsion is described in
15 WO 95/17210.

Other preferred adjuvants include Montanide ISA 720 (Seppic, France), SAF (Chiron, California, United States), ISCOMS (CSL), MF-59 (Chiron), the SBAS series of adjuvants (*e.g.*, SBAS-2 or SBAS-4, available from SmithKline Beecham, Rixensart, Belgium), Detox (Ribi ImmunoChem Research Inc., Hamilton,
20 MT), RC-529 (Corixa, Seattle, WA) and Aminoalkyl glucosaminide 4-phosphates (AGPs).

Any vaccine provided herein may be prepared using well known methods that result in a combination of antigen, immune response enhancer and a suitable carrier or excipient. The compositions described herein may be administered
25 as part of a sustained release formulation (*i.e.*, a formulation such as a capsule, sponge or gel (composed of polysaccharides, for example) that effects a slow release of compound following administration). Such formulations may generally be prepared using well known technology (*see, e.g.* Coombes et al., *Vaccine* 14:1429-1438, 1996) and administered by, for example, oral, rectal or subcutaneous implantation, or by
30 implantation at the desired target site. Sustained-release formulations may contain a polypeptide, polynucleotide or antibody dispersed in a carrier matrix and/or contained

within a reservoir surrounded by a rate controlling membrane.

Carriers for use within such formulations are biocompatible, and may also be biodegradable; preferably the formulation provides a relatively constant level of active component release. Such carriers include microparticles of poly(lactide-co-glycolide), as well as polyacrylate, latex, starch, cellulose and dextran. Other delayed-release carriers include supramolecular biovectors, which comprise a non-liquid hydrophilic core (*e.g.*, a cross-linked polysaccharide or oligosaccharide) and, optionally, an external layer comprising an amphiphilic compound, such as a phospholipid (*see e.g.*, U.S. Patent No. 5,151,254 and PCT applications WO 94/20078, WO/94/23701 and WO 96/06638). The amount of active compound contained within a sustained release formulation depends upon the site of implantation, the rate and expected duration of release and the nature of the condition to be treated or prevented.

Any of a variety of delivery vehicles may be employed within pharmaceutical compositions and vaccines to facilitate production of an antigen-specific immune response that targets tumor cells. Delivery vehicles include antigen presenting cells (APCs), such as dendritic cells, macrophages, B cells, monocytes and other cells that may be engineered to be efficient APCs. Such cells may, but need not, be genetically modified to increase the capacity for presenting the antigen, to improve activation and/or maintenance of the T cell response, to have anti-tumor effects *per se* and/or to be immunologically compatible with the receiver (*i.e.*, matched HLA haplotype). APCs may generally be isolated from any of a variety of biological fluids and organs, including tumor and peritumoral tissues, and may be autologous, allogeneic, syngeneic or xenogeneic cells.

Certain preferred embodiments of the present invention use dendritic cells or progenitors thereof as antigen-presenting cells. Dendritic cells are highly potent APCs (Banchereau and Steinman, *Nature* 392:245-251, 1998) and have been shown to be effective as a physiological adjuvant for eliciting prophylactic or therapeutic antitumor immunity (*see* Timmerman and Levy, *Ann. Rev. Med.* 50:507-529, 1999). In general, dendritic cells may be identified based on their typical shape (stellate *in situ*, with marked cytoplasmic processes (dendrites) visible *in vitro*), their

ability to take up, process and present antigens with high efficiency, and their ability to activate naïve T cell responses. Dendritic cells may, of course, be engineered to express specific cell-surface receptors or ligands that are not commonly found on dendritic cells *in vivo* or *ex vivo*, and such modified dendritic cells are contemplated
5 by the present invention. As an alternative to dendritic cells, secreted vesicles antigen-loaded dendritic cells (called exosomes) may be used within a vaccine (see Zitvogel et al., *Nature Med.* 4:594-600, 1998).

Dendritic cells and progenitors may be obtained from peripheral blood, bone marrow, tumor-infiltrating cells, peritumoral tissues-infiltrating cells, lymph
10 nodes, spleen, skin, umbilical cord blood or any other suitable tissue or fluid. For example, dendritic cells may be differentiated *ex vivo* by adding a combination of cytokines such as GM-CSF, IL-4, IL-13 and/or TNF α to cultures of monocytes harvested from peripheral blood. Alternatively, CD34 positive cells harvested from peripheral blood, umbilical cord blood or bone marrow may be differentiated into
15 dendritic cells by adding to the culture medium combinations of GM-CSF, IL-3, TNF α , CD40 ligand, LPS, flt3 ligand and/or other compound(s) that induce differentiation, maturation and proliferation of dendritic cells.

Dendritic cells are conveniently categorized as "immature" and "mature" cells, which allows a simple way to discriminate between two well
20 characterized phenotypes. However, this nomenclature should not be construed to exclude all possible intermediate stages of differentiation. Immature dendritic cells are characterized as APC with a high capacity for antigen uptake and processing, which correlates with the high expression of Fc γ receptor and mannose receptor. The mature phenotype is typically characterized by a lower expression of these markers,
25 but a high expression of cell surface molecules responsible for T cell activation such as class I and class II MHC, adhesion molecules (e.g., CD54 and CD11) and costimulatory molecules (e.g., CD40, CD80, CD86 and 4-1BB).

APCs may generally be transfected with a polynucleotide encoding a colon tumor protein (or portion or other variant thereof) such that the colon tumor
30 polypeptide, or an immunogenic portion thereof, is expressed on the cell surface. Such transfection may take place *ex vivo*, and a composition or vaccine comprising

such transfected cells may then be used for therapeutic purposes, as described herein. Alternatively, a gene delivery vehicle that targets a dendritic or other antigen presenting cell may be administered to a patient, resulting in transfection that occurs *in vivo*. *In vivo* and *ex vivo* transfection of dendritic cells, for example, may generally
5 be performed using any methods known in the art, such as those described in WO 97/24447, or the gene gun approach described by Mahvi et al., *Immunology and cell Biology* 75:456-460, 1997. Antigen loading of dendritic cells may be achieved by incubating dendritic cells or progenitor cells with the colon tumor polypeptide, DNA (naked or within a plasmid vector) or RNA; or with antigen-expressing recombinant
10 bacterium or viruses (*e.g.*, vaccinia, fowlpox, adenovirus or lentivirus vectors). Prior to loading, the polypeptide may be covalently conjugated to an immunological partner that provides T cell help (*e.g.*, a carrier molecule). Alternatively, a dendritic cell may be pulsed with a non-conjugated immunological partner, separately or in the presence of the polypeptide.

15 Vaccines and pharmaceutical compositions may be presented in unit-dose or multi-dose containers, such as sealed ampoules or vials. Such containers are preferably hermetically sealed to preserve sterility of the formulation until use. In general, formulations may be stored as suspensions, solutions or emulsions in oily or aqueous vehicles. Alternatively, a vaccine or pharmaceutical composition may be
20 stored in a freeze-dried condition requiring only the addition of a sterile liquid carrier immediately prior to use.

CANCER THERAPY

In further aspects of the present invention, the compositions described
25 herein may be used for immunotherapy of cancer, such as colon cancer. Within such methods, pharmaceutical compositions and vaccines are typically administered to a patient. As used herein, a "patient" refers to any warm-blooded animal, preferably a human. A patient may or may not be afflicted with cancer. Accordingly, the above pharmaceutical compositions and vaccines may be used to prevent the development of
30 a cancer or to treat a patient afflicted with a cancer. A cancer may be diagnosed using criteria generally accepted in the art, including the presence of a malignant tumor.

Pharmaceutical compositions and vaccines may be administered either prior to or following surgical removal of primary tumors and/or treatment such as administration of radiotherapy or conventional chemotherapeutic drugs.

Within certain embodiments, immunotherapy may be active
5 immunotherapy, in which treatment relies on the *in vivo* stimulation of the endogenous host immune system to react against tumors with the administration of immune response-modifying agents (such as polypeptides and polynucleotides disclosed herein).

Within other embodiments, immunotherapy may be passive
10 immunotherapy, in which treatment involves the delivery of agents with established tumor-immune reactivity (such as effector cells or antibodies) that can directly or indirectly mediate antitumor effects and does not necessarily depend on an intact host immune system. Examples of effector cells include T cells as discussed above, T lymphocytes (such as CD8⁺ cytotoxic T lymphocytes and CD4⁺ T-helper tumor-
15 infiltrating lymphocytes), killer cells (such as Natural Killer cells and lymphokine-activated killer cells), B cells and antigen-presenting cells (such as dendritic cells and macrophages) expressing a polypeptide provided herein. T cell receptors and antibody receptors specific for the polypeptides recited herein may be cloned, expressed and transferred into other vectors or effector cells for adoptive
20 immunotherapy. The polypeptides provided herein may also be used to generate antibodies or anti-idiotypic antibodies (as described above and in U.S. Patent No. 4,918,164) for passive immunotherapy.

Effector cells may generally be obtained in sufficient quantities for adoptive immunotherapy by growth *in vitro*, as described herein. Culture conditions
25 for expanding single antigen-specific effector cells to several billion in number with retention of antigen recognition *in vivo* are well known in the art. Such *in vitro* culture conditions typically use intermittent stimulation with antigen, often in the presence of cytokines (such as IL-2) and non-dividing feeder cells. As noted above, immunoreactive polypeptides as provided herein may be used to rapidly expand
30 antigen-specific T cell cultures in order to generate a sufficient number of cells for immunotherapy. In particular, antigen-presenting cells, such as dendritic,

macrophage, monocyte, fibroblast and/or B cells, may be pulsed with immunoreactive polypeptides or transfected with one or more polynucleotides using standard techniques well known in the art. For example, antigen-presenting cells can be transfected with a polynucleotide having a promoter appropriate for increasing
5 expression in a recombinant virus or other expression system. Cultured effector cells for use in therapy must be able to grow and distribute widely, and to survive long term *in vivo*. Studies have shown that cultured effector cells can be induced to grow *in vivo* and to survive long term in substantial numbers by repeated stimulation with antigen supplemented with IL-2 (*see, for example, Cheever et al., Immunological*
10 *Reviews 157:177, 1997*).

Alternatively, a vector expressing a polypeptide recited herein may be introduced into antigen presenting cells taken from a patient and clonally propagated *ex vivo* for transplant back into the same patient. Transfected cells may be reintroduced into the patient using any means known in the art, preferably in sterile
15 form by intravenous, intracavitary, intraperitoneal or intratumor administration.

Routes and frequency of administration of the therapeutic compositions disclosed herein, as well as dosage, will vary from individual to individual, and may be readily established using standard techniques. In general, the pharmaceutical compositions and vaccines may be administered by injection (*e.g., intracutaneous, intramuscular, intravenous or subcutaneous*), intranasally (*e.g., by aspiration*) or orally. Preferably, between 1 and 10 doses may be administered over a 52 week period. Preferably, 6 doses are administered, at intervals of 1 month, and booster vaccinations may be given periodically thereafter. Alternate protocols may be appropriate for individual patients. A suitable dose is an amount of a compound that,
25 when administered as described above, is capable of promoting an anti-tumor immune response, and is at least 10-50% above the basal (*i.e., untreated*) level. Such response can be monitored by measuring the anti-tumor antibodies in a patient or by vaccine-dependent generation of cytolytic effector cells capable of killing the patient's tumor cells *in vitro*. Such vaccines should also be capable of causing an immune response
30 that leads to an improved clinical outcome (*e.g., more frequent remissions, complete or partial or longer disease-free survival*) in vaccinated patients as compared to non-

vaccinated patients. In general, for pharmaceutical compositions and vaccines comprising one or more polypeptides, the amount of each polypeptide present in a dose ranges from about 25 μ g to 5 mg per kg of host. Suitable dose sizes will vary with the size of the patient, but will typically range from about 0.1 mL to about 5 mL.

5 In general, an appropriate dosage and treatment regimen provides the active compound(s) in an amount sufficient to provide therapeutic and/or prophylactic benefit. Such a response can be monitored by establishing an improved clinical outcome (*e.g.*, more frequent remissions, complete or partial, or longer disease-free survival) in treated patients as compared to non-treated patients. Increases in
10 preexisting immune responses to a colon tumor protein generally correlate with an improved clinical outcome. Such immune responses may generally be evaluated using standard proliferation, cytotoxicity or cytokine assays, which may be performed using samples obtained from a patient before and after treatment.

15 METHODS FOR DETECTING CANCER

In general, a cancer may be detected in a patient based on the presence of one or more colon tumor proteins and/or polynucleotides encoding such proteins in a biological sample (for example, blood, sera, sputum, urine and/or tumor biopsies) obtained from the patient. In other words, such proteins may be used as markers to
20 indicate the presence or absence of a cancer such as colon cancer. In addition, such proteins may be useful for the detection of other cancers. The binding agents provided herein generally permit detection of the level of antigen that binds to the agent in the biological sample. Polynucleotide primers and probes may be used to detect the level of mRNA encoding a tumor protein, which is also indicative of the
25 presence or absence of a cancer. In general, a colon tumor sequence should be present at a level that is at least three fold higher in tumor tissue than in normal tissue

There are a variety of assay formats known to those of ordinary skill in the art for using a binding agent to detect polypeptide markers in a sample. *See, e.g.*, Harlow and Lane, *Antibodies: A Laboratory Manual*, Cold Spring Harbor Laboratory,
30 1988. In general, the presence or absence of a cancer in a patient may be determined by (a) contacting a biological sample obtained from a patient with a binding agent; (b)

detecting in the sample a level of polypeptide that binds to the binding agent; and (c) comparing the level of polypeptide with a predetermined cut-off value.

In a preferred embodiment, the assay involves the use of binding agent immobilized on a solid support to bind to and remove the polypeptide from the remainder of the sample. The bound polypeptide may then be detected using a
5 detection reagent that contains a reporter group and specifically binds to the binding agent/polypeptide complex. Such detection reagents may comprise, for example, a binding agent that specifically binds to the polypeptide or an antibody or other agent that specifically binds to the binding agent, such as an anti-immunoglobulin, protein
10 G, protein A or a lectin. Alternatively, a competitive assay may be utilized, in which a polypeptide is labeled with a reporter group and allowed to bind to the immobilized binding agent after incubation of the binding agent with the sample. The extent to which components of the sample inhibit the binding of the labeled polypeptide to the binding agent is indicative of the reactivity of the sample with the immobilized
15 binding agent. Suitable polypeptides for use within such assays include full length colon tumor proteins and portions thereof to which the binding agent binds, as described above.

The solid support may be any material known to those of ordinary skill in the art to which the tumor protein may be attached. For example, the solid support
20 may be a test well in a microtiter plate or a nitrocellulose or other suitable membrane. Alternatively, the support may be a bead or disc, such as glass, fiberglass, latex or a plastic material such as polystyrene or polyvinylchloride. The support may also be a magnetic particle or a fiber optic sensor, such as those disclosed, for example, in U.S. Patent No. 5,359,681. The binding agent may be immobilized on the solid support
25 using a variety of techniques known to those of skill in the art, which are amply described in the patent and scientific literature. In the context of the present invention, the term "immobilization" refers to both noncovalent association, such as adsorption, and covalent attachment (which may be a direct linkage between the agent and functional groups on the support or may be a linkage by way of a cross-linking
30 agent). Immobilization by adsorption to a well in a microtiter plate or to a membrane is preferred. In such cases, adsorption may be achieved by contacting the binding

agent, in a suitable buffer, with the solid support for a suitable amount of time. The contact time varies with temperature, but is typically between about 1 hour and about 1 day. In general, contacting a well of a plastic microtiter plate (such as polystyrene or polyvinylchloride) with an amount of binding agent ranging from about 10 ng to about 10 μ g, and preferably about 100 ng to about 1 μ g, is sufficient to immobilize an adequate amount of binding agent.

Covalent attachment of binding agent to a solid support may generally be achieved by first reacting the support with a bifunctional reagent that will react with both the support and a functional group, such as a hydroxyl or amino group, on the binding agent. For example, the binding agent may be covalently attached to supports having an appropriate polymer coating using benzoquinone or by condensation of an aldehyde group on the support with an amine and an active hydrogen on the binding partner (*see, e.g.,* Pierce Immunotechnology Catalog and Handbook, 1991, at A12-A13).

In certain embodiments, the assay is a two-antibody sandwich assay. This assay may be performed by first contacting an antibody that has been immobilized on a solid support, commonly the well of a microtiter plate, with the sample, such that polypeptides within the sample are allowed to bind to the immobilized antibody. Unbound sample is then removed from the immobilized polypeptide-antibody complexes and a detection reagent (preferably a second antibody capable of binding to a different site on the polypeptide) containing a reporter group is added. The amount of detection reagent that remains bound to the solid support is then determined using a method appropriate for the specific reporter group.

More specifically, once the antibody is immobilized on the support as described above, the remaining protein binding sites on the support are typically blocked. Any suitable blocking agent known to those of ordinary skill in the art, such as bovine serum albumin or Tween 20TM (Sigma Chemical Co., St. Louis, MO). The immobilized antibody is then incubated with the sample, and polypeptide is allowed to bind to the antibody. The sample may be diluted with a suitable diluent, such as phosphate-buffered saline (PBS) prior to incubation. In general, an appropriate contact time (*i.e.,* incubation time) is a period of time that is sufficient to detect the

presence of polypeptide within a sample obtained from an individual with colon cancer. Preferably, the contact time is sufficient to achieve a level of binding that is at least about 95% of that achieved at equilibrium between bound and unbound polypeptide. Those of ordinary skill in the art will recognize that the time necessary
5 to achieve equilibrium may be readily determined by assaying the level of binding that occurs over a period of time. At room temperature, an incubation time of about 30 minutes is generally sufficient.

Unbound sample may then be removed by washing the solid support with an appropriate buffer, such as PBS containing 0.1% Tween 20™. The second
10 antibody, which contains a reporter group, may then be added to the solid support. Preferred reporter groups include those groups recited above.

The detection reagent is then incubated with the immobilized antibody-polypeptide complex for an amount of time sufficient to detect the bound polypeptide. An appropriate amount of time may generally be determined by assaying the level of
15 binding that occurs over a period of time. Unbound detection reagent is then removed and bound detection reagent is detected using the reporter group. The method employed for detecting the reporter group depends upon the nature of the reporter group. For radioactive groups, scintillation counting or autoradiographic methods are generally appropriate. Spectroscopic methods may be used to detect dyes,
20 luminescent groups and fluorescent groups. Biotin may be detected using avidin, coupled to a different reporter group (commonly a radioactive or fluorescent group or an enzyme). Enzyme reporter groups may generally be detected by the addition of substrate (generally for a specific period of time), followed by spectroscopic or other analysis of the reaction products.

25 To determine the presence or absence of a cancer, such as colon cancer, the signal detected from the reporter group that remains bound to the solid support is generally compared to a signal that corresponds to a predetermined cut-off value. In one preferred embodiment, the cut-off value for the detection of a cancer is the average mean signal obtained when the immobilized antibody is incubated with
30 samples from patients without the cancer. In general, a sample generating a signal that is three standard deviations above the predetermined cut-off value is considered

positive for the cancer. In an alternate preferred embodiment, the cut-off value is determined using a Receiver Operator Curve, according to the method of Sackett et al., *Clinical Epidemiology: A Basic Science for Clinical Medicine*, Little Brown and Co., 1985, p. 106-7. Briefly, in this embodiment, the cut-off value may be determined
5 from a plot of pairs of true positive rates (*i.e.*, sensitivity) and false positive rates (100%-specificity) that correspond to each possible cut-off value for the diagnostic test result. The cut-off value on the plot that is the closest to the upper left-hand corner (*i.e.*, the value that encloses the largest area) is the most accurate cut-off value, and a sample generating a signal that is higher than the cut-off value determined by
10 this method may be considered positive. Alternatively, the cut-off value may be shifted to the left along the plot, to minimize the false positive rate, or to the right, to minimize the false negative rate. In general, a sample generating a signal that is higher than the cut-off value determined by this method is considered positive for a cancer.

15 In a related embodiment, the assay is performed in a flow-through or strip test format, wherein the binding agent is immobilized on a membrane, such as nitrocellulose. In the flow-through test, polypeptides within the sample bind to the immobilized binding agent as the sample passes through the membrane. A second, labeled binding agent then binds to the binding agent-polypeptide complex as a
20 solution containing the second binding agent flows through the membrane. The detection of bound second binding agent may then be performed as described above. In the strip test format, one end of the membrane to which binding agent is bound is immersed in a solution containing the sample. The sample migrates along the membrane through a region containing second binding agent and to the area of
25 immobilized binding agent. Concentration of second binding agent at the area of immobilized antibody indicates the presence of a cancer. Typically, the concentration of second binding agent at that site generates a pattern, such as a line, that can be read visually. The absence of such a pattern indicates a negative result. In general, the amount of binding agent immobilized on the membrane is selected to generate a
30 visually discernible pattern when the biological sample contains a level of polypeptide that would be sufficient to generate a positive signal in the two-antibody sandwich

assay, in the format discussed above. Preferred binding agents for use in such assays are antibodies and antigen-binding fragments thereof. Preferably, the amount of antibody immobilized on the membrane ranges from about 25 ng to about 1 μ g, and more preferably from about 50 ng to about 500 ng. Such tests can typically be performed with a very small amount of biological sample.

Of course, numerous other assay protocols exist that are suitable for use with the tumor proteins or binding agents of the present invention. The above descriptions are intended to be exemplary only. For example, it will be apparent to those of ordinary skill in the art that the above protocols may be readily modified to use colon tumor polypeptides to detect antibodies that bind to such polypeptides in a biological sample. The detection of such colon tumor protein specific antibodies may correlate with the presence of a cancer.

A cancer may also, or alternatively, be detected based on the presence of T cells that specifically react with a colon tumor protein in a biological sample. Within certain methods, a biological sample comprising CD4⁺ and/or CD8⁺ T cells isolated from a patient is incubated with a colon tumor polypeptide, a polynucleotide encoding such a polypeptide and/or an APC that expresses at least an immunogenic portion of such a polypeptide, and the presence or absence of specific activation of the T cells is detected. Suitable biological samples include, but are not limited to, isolated T cells. For example, T cells may be isolated from a patient by routine techniques (such as by Ficoll/Hypaque density gradient centrifugation of peripheral blood lymphocytes). T cells may be incubated *in vitro* for 2-9 days (typically 4 days) at 37°C with one or more representative polypeptides (*e.g.*, 5 - 25 μ g/ml). It may be desirable to incubate another aliquot of a T cell sample in the absence of colon tumor polypeptide to serve as a control. For CD4⁺ T cells, activation is preferably detected by evaluating proliferation of the T cells. For CD8⁺ T cells, activation is preferably detected by evaluating cytolytic activity. A level of proliferation that is at least two fold greater and/or a level of cytolytic activity that is at least 20% greater than in disease-free patients indicates the presence of a cancer in the patient.

As noted above, a cancer may also, or alternatively, be detected based on the level of mRNA encoding a colon tumor protein in a biological sample. For

example, at least two oligonucleotide primers may be employed in a polymerase chain reaction (PCR) based assay to amplify a portion of a colon tumor cDNA derived from a biological sample, wherein at least one of the oligonucleotide primers is specific for (*i.e.*, hybridizes to) a polynucleotide encoding the colon tumor protein. The amplified
5 cDNA is then separated and detected using techniques well known in the art, such as gel electrophoresis. Similarly, oligonucleotide probes that specifically hybridize to a polynucleotide encoding a colon tumor protein may be used in a hybridization assay to detect the presence of polynucleotide encoding the tumor protein in a biological sample.

10 To permit hybridization under assay conditions, oligonucleotide primers and probes should comprise an oligonucleotide sequence that has at least about 60%, preferably at least about 75% and more preferably at least about 90%, identity to a portion of a polynucleotide encoding a colon tumor protein that is at least 10 nucleotides, and preferably at least 20 nucleotides, in length. Preferably,
15 oligonucleotide primers and/or probes will hybridize to a polynucleotide encoding a polypeptide disclosed herein under moderately stringent conditions, as defined above. Oligonucleotide primers and/or probes which may be usefully employed in the diagnostic methods described herein preferably are at least 10-40 nucleotides in length. In a preferred embodiment, the oligonucleotide primers comprise at least 10
20 contiguous nucleotides, more preferably at least 15 contiguous nucleotides, of a DNA molecule having a sequence recited in SEQ ID NO: 1-121, 123-197, 205-630, 632-684, 686, 690-691, and 694-1081. Techniques for both PCR based assays and hybridization assays are well known in the art (*see*, for example, Mullis et al., *Cold Spring Harbor Symp. Quant. Biol.*, 51:263, 1987; Erlich ed., *PCR Technology*,
25 Stockton Press, NY, 1989).

One preferred assay employs RT-PCR, in which PCR is applied in conjunction with reverse transcription. Typically, RNA is extracted from a biological sample, such as biopsy tissue, and is reverse transcribed to produce cDNA molecules. PCR amplification using at least one specific primer generates a cDNA molecule,
30 which may be separated and visualized using, for example, gel electrophoresis. Amplification may be performed on biological samples taken from a test patient and

from an individual who is not afflicted with a cancer. The amplification reaction may be performed on several dilutions of cDNA spanning two orders of magnitude. A two-fold or greater increase in expression in several dilutions of the test patient sample as compared to the same dilutions of the non-cancerous sample is typically
5 considered positive.

In another embodiment, the disclosed compositions may be used as markers for the progression of cancer. In this embodiment, assays as described above for the diagnosis of a cancer may be performed over time, and the change in the level of reactive polypeptide(s) or polynucleotide evaluated. For example, the assays may
10 be performed every 24-72 hours for a period of 6 months to 1 year, and thereafter performed as needed. In general, a cancer is progressing in those patients in whom the level of polypeptide or polynucleotide detected increases over time. In contrast, the cancer is not progressing when the level of reactive polypeptide or polynucleotide either remains constant or decreases with time.

15 Certain *in vivo* diagnostic assays may be performed directly on a tumor. One such assay involves contacting tumor cells with a binding agent. The bound binding agent may then be detected directly or indirectly via a reporter group. Such binding agents may also be used in histological applications. Alternatively, polynucleotide probes may be used within such applications.

20 As noted above, to improve sensitivity, multiple colon tumor protein markers may be assayed within a given sample. It will be apparent that binding agents specific for different proteins provided herein may be combined within a single assay. Further, multiple primers or probes may be used concurrently. The selection of tumor protein markers may be based on routine experiments to determine combinations that
25 results in optimal sensitivity. In addition, or alternatively, assays for tumor proteins provided herein may be combined with assays for other known tumor antigens.

DIAGNOSTIC KITS

The present invention further provides kits for use within any of the
30 above diagnostic methods. Such kits typically comprise two or more components necessary for performing a diagnostic assay. Components may be compounds,

reagents, containers and/or equipment. For example, one container within a kit may contain a monoclonal antibody or fragment thereof that specifically binds to a colon tumor protein. Such antibodies or fragments may be provided attached to a support material, as described above. One or more additional containers may enclose
5 elements, such as reagents or buffers, to be used in the assay. Such kits may also, or alternatively, contain a detection reagent as described above that contains a reporter group suitable for direct or indirect detection of antibody binding.

Alternatively, a kit may be designed to detect the level of mRNA encoding a colon tumor protein in a biological sample. Such kits generally comprise
10 at least one oligonucleotide probe or primer, as described above, that hybridizes to a polynucleotide encoding a colon tumor protein. Such an oligonucleotide may be used, for example, within a PCR or hybridization assay. Additional components that may be present within such kits include a second oligonucleotide and/or a diagnostic reagent or container to facilitate the detection of a polynucleotide encoding a colon
15 tumor protein.

The following Examples are offered by way of illustration and not by way of limitation.

EXAMPLES

Example 1

ISOLATION AND CHARACTERIZATION OF COLON TUMOR POLYPEPTIDES
5 BY PCR-BASED SUBTRACTION AND MICROARRAY ANALYSIS

A cDNA library was constructed in the PCR2.1 vector (Invitrogen, Carlsbad, CA) by subtracting a pool of three colon tumors with a pool of normal colon, spleen, brain, liver, kidney, lung, stomach and small intestine using PCR subtraction methodologies (Clontech, Palo Alto, CA). The subtraction was performed
10 using a PCR-based protocol, which was modified to generate larger fragments. Within this protocol, tester and driver double stranded cDNA were separately digested with five restriction enzymes that recognize six-nucleotide restriction sites (MluI, MscI, PvuII, SalI and StuI). This digestion resulted in an average cDNA size of 600
15 bp, rather than the average size of 300 bp that results from digestion with RsaI according to the Clontech protocol. This modification did not affect the subtraction efficiency. Two tester populations were then created with different adapters, and the driver library remained without adapters.

The tester and driver libraries were then hybridized using excess driver
20 cDNA. In the first hybridization step, driver was separately hybridized with each of the two tester cDNA populations. This resulted in populations of (a) unhybridized tester cDNAs, (b) tester cDNAs hybridized to other tester cDNAs, (c) tester cDNAs hybridized to driver cDNAs, and (d) unhybridized driver cDNAs. The two separate hybridization reactions were then combined, and rehybridized in the presence of
25 additional denatured driver cDNA. Following this second hybridization, in addition to populations (a) through (d), a fifth population (e) was generated in which tester cDNA with one adapter hybridized to tester cDNA with the second adapter. Accordingly, the second hybridization step resulted in enrichment of differentially expressed sequences which could be used as templates for PCR amplification with
30 adaptor-specific primers.

The ends were then filled in, and PCR amplification was performed using adaptor-specific primers. Only population (e), which contained tester cDNA that did not hybridize to driver cDNA, was amplified exponentially. A second PCR amplification step was then performed, to reduce background and further enrich
5 differentially expressed sequences.

This PCR-based subtraction technique normalizes differentially expressed cDNAs so that rare transcripts that are over-expressed in colon tumor tissue may be recoverable. Such transcripts would be difficult to recover by traditional subtraction methods.

10 To characterize the complexity and redundancy of the subtracted library, 96 clones were randomly picked and 65 were sequenced, as previously described. These sequences were further characterized by comparison with the most recent Genbank database (April, 1998) to determine their degree of novelty. No significant homologies were found to 21 of these clones, hereinafter referred to as
15 11092, 11093, 11096, 11098, 11103, 11174, 11108, 11112, 11115, 11117, 11118, 11134, 11151, 11154, 11158, 11168, 11172, 11175, 11184, 11185 and 11187. The determined cDNA sequences for these clones are provided in SEQ ID NO: 48, 49, 52, 54, 59, 60, 65-69, 79, 89, 90, 93, 99-101 and 109-111, respectively.

Two-thousand clones from the above mentioned cDNA subtraction
20 library were randomly picked and submitted to a round of PCR amplification. Briefly, 0.5 μ l of glycerol stock solution was added to 99.5 μ l of pcr MIX (80 μ l H₂O, 10 μ l 10X PCR Buffer, 6 μ l 25 mM MgCl₂, 1 μ l 10 mM dNTPs, 1 μ l 100 mM M13 forward primer (CACGACGTTGTAAAACGACGG), 1 μ l 100 mM M13 reverse primer (CACAGGAAACAGCTATGACC)), and 0.5 μ l 5 u/ml Taq polymerase (primers
25 provided by (Operon Technologies, Alameda, CA). The PCR amplification was run for thirty cycles under the following conditions: 95°C for 5 min., 92°C for 30 sec., 57°C for 40 sec., 75°C for 2 min. and 75°C for 5 minutes.

mRNA expression levels for representative clones were determined using microarray technology (Synteni, Palo Alto, CA) in colon tumor tissues (n=25),
30 normal colon tissues (n=6), kidney, lung, liver, brain, heart, esophagus, small intestine, stomach, pancreas, adrenal gland, salivary gland, resting PBMC, activated

PBMC, bone marrow, dendritic cells, spinal cord, blood vessels, skeletal muscle, skin, breast and fetal tissues. The number of tissue samples tested in each case was one (n=1), except where specifically noted above; additionally, all the above-mentioned tissues were derived from humans. The PCR amplification products were dotted onto
5 slides in an array format, with each product occupying a unique location in the array. mRNA was extracted from the tissue sample to be tested, and fluorescent-labeled cDNA probes were generated by reverse transcription according to the protocol provided by Synteni. The microarrays were probed with the labeled cDNA probes, the slides scanned, and fluorescence intensity was measured. This intensity correlates
10 with the hybridization intensity.

One hundred and forty nine clones showed two or more fold over-expression in the colon tumor probe group as compared to the normal tissue probe group. These cDNA clones were further characterized by DNA sequencing with a Perkin Elmer/Applied Biosystems Division Automated Sequencer Model 373A and/or
15 Model 377 (Foster City, CA). These sequences were compared to known sequences in the most recent GenBank database. No significant homologies to human gene sequences were found in forty nine of these clones, represented by the following sixteen cDNA consensus sequences: SEQ ID NO: 2, 8, 15, 16, 22, 24, 30, 32-34, 36, 38, 40, 41, 46 and 47, hereinafter referred to as Contig 2, 8, 13, 14, 20, 23, 29, 31, 35,
20 32, 36, 38, 41, 42, 50 and 51, respectively). Contig 29 (SEQ ID NO: 30) was found to be a Rat GSK-3- β -interacting protein Axil homolog. Also, Contigs 31 and 35 (SEQ ID NO: 32 and 33, respectively) were found to be a Mus musculus GOB-4 homolog. The determined cDNA sequences of SEQ ID NO: 1, 3-7, 9-14, 17-21, 23, 25-29, 31, 35, 37, 39, 42-45, 50, 51, 53, 55-58, 61-64, 70-78, 80-88, 91, 92, 94-98, 102-108 and
25 112 were found to show some homology to previously identified genes sequences.

Microarray analysis demonstrated Contig 2 (SEQ ID NO: 2) showed over-expression in 34% of colon tumors tested, as well as increased expression in normal pancreatic tissue, with no over-expression in normal colon tissues. Upon further analysis, Contigs 2, 8 and 23 were found to share homology to the known gene
30 GW112. Contigs 4, 5, 9 and 52 showed homology to carcinoembryonic antigen (SEQ ID NO: 3, 4, 5 and 6, respectively). A representative sampling of these fragments

showed over-expression in 85% of colon tumors, with over-expression in normal bone marrow and 3/6 normal colon tissues. Contig 6 (SEQ ID NO: 7), showing homology to the known gene sequence for villin, and was over-expressed in about half of all colon tumors tested, with a limited degree of low level over-expression in normal colon. Contig 12 (SEQ ID NO: 14), showing homology to Chromosome 17, clone hRPC.1171_I_10, also referred to as C798P, was over-expressed in approximately 70% of colon tumors tested, with low over-expression in 1/6 normal colon samples. Contig 14, also referred to as 14261 (SEQ ID NO: 16), showing no significant homology to any known gene, showed over-expression in 44% of colon tumors tested, with low level expression in half of normal colon tissues, as well as small intestine and pancreatic tissue. Contig 18 (SEQ ID NO: 21), showing homology to the known gene for L1-cadherin, showed over-expression in approximately half of colon tumors and low level over-expression in 3/6 normal colon tissues tested. Contig 22 (SEQ ID NO: 23), showing homology to Bumetanide-sensitive Na-K-Cl cotransporter was over-expressed in 70% of colon tumors and no over-expression in all normal tissues tested. Contig 25 (SEQ ID NO: 25), showing homology to macrophage inflammatory protein-3 α , was over-expressed in over 40% of colon tumors and in activated PBMC. Contigs 26 and 48 (SEQ ID NOS: 25 and 26), showing homology to the sequence for laminin, was over-expressed in 48% of colon tumors and with low over-expression in stomach tissue. Contig 28 (SEQ ID NO: 29), showing homology to the known gene sequence for Chromosome 16 BAC clone CIT987SK-A-363E6, was over-expressed in 33% of colon tumors tested with normal stomach and 2/6 normal colon tissues showing low level over-expression. Contigs 29, 31 and 35 (SEQ ID NOS: 30, 32 and 33, respectively), also referred to as C751P, an unknown sequence showing limited and partial homology to Rat GSK-3 β -interacting protein Axil homolog and Mus musculus GOB-4 homolog, was over-expressed in 74% of colon tumors and no over-expression in all normal tissues tested. Contig 34 (SEQ ID NO: 35), showing homology to the known sequence for desmoglein 2, was over-expressed in 56% of colon tumors and showed low level over-expression in 1/6 normal colon tissues. Contig 36 (SEQ ID NO: 36), an unknown sequence also referred to as C793P, showed over-expression in 30% of colon tumor tissues tested. Contig 37 and 14287.2 (SEQ

ID NOS: 37 and 116), an unknown sequence, but with limited (89%) homology to the known sequence for putative transmembrane protein was over-expressed in 70% of colon tumors, as well as in normal lung tissue and 3/6 normal colon tissues tested. Contig 38, also referred to as C796P and 14219 (SEQ ID NO: 38), showing no significant homology to any known gene, was over-expressed in 38% in colon tumors and no elevated over-expression in any normal tissues. Contig 41 (SEQ ID NO: 40), also referred to as C799P and 14308, an unknown sequence showing no significant homology to any known gene, was over-expressed in 22% of colon tumors. Contig 42, (SEQ ID NO: 41), also referred to as C794P and 14309, an unknown sequence with no significant homology to any known gene, was over-expressed in 63% of colon tumors tested, as well as in 3/6 normal colon tissues. Contig 43 (SEQ ID NO: 42), showing homology to the known sequence for Chromosome 1 specific transcript KIAA0487 was over-expressed in 85% of colon tumors tested and in normal lung and 4/6 normal colon tissues. Contig 49 (SEQ ID NO: 45), showing homology to the known sequence for pump-1, was over-expressed in 44% of colon tumors and no over-expression in all normal tissues tested. Contig 50 (SEQ ID NO: 46), also referred to as C792P and 18323, showing no significant homology to any known gene, was over-expressed in 33% of colon tumors with no detectable over-expression in any normal tissues tested. Contig 51 (SEQ ID NO: 47), also referred to as C795P and 14317 was over-expressed in 11% of colon tumors.

Additional microarray analysis yielded seven clones showing two or more fold over-expression in the colon tumor probe group as compared to the normal tissue probe group. Three of these clones demonstrated particularly good colon tumor specificity, and are represented by SEQ ID NO: 115, 116 and 120. Specifically, SEQ ID NO: 115, referred to as C791P or 14235, which shows homology to the known gene sequence for *H. sapiens* chromosome 21 derived BAC containing *ets-2* gene, was over-expressed in 89% of colon tumors tested and in 5/6 normal colon tissues, as well as over-expressed at low levels in normal lung and activated PBMC. Microarray analysis for SEQ ID NO: 116 is discussed above. SEQ ID NO: 120, referred to as 14295, showing homology to the known gene sequence for secreted cement gland protein XAG-2 homolog, was over-expressed in 70% of colon tumors and in 5/6

normal colon tissues, as well as low level over-expression in normal small intestine, stomach and lung. All clones showing over-expression in colon tumor were sequenced and these sequences compared to the most recent Genbank database (February 12, 1999). Of the seven clones, three contained sequences that did not
5 share significant homology to any known gene sequences, represented by SEQ ID NO: 116, 117 and 119. To the best of the inventors' knowledge, none of these sequences have been previously shown to be present in colon. The determined cDNA sequences of the remaining clones (SEQ ID NO: 113-115 and 120) were found to show some homology to previously identified genes.

10 Further analysis identified a clone which was recovered several times by PCR subtraction and by expression screening using a mouse anti-scid antiserum. The determined full length cDNA sequence for this clone is provided in SEQ ID NO: 121, with the corresponding predicted amino acid sequence being provided in SEQ ID NO: 122. This clone is homologous with the known gene Beta IG-H3, as disclosed in
15 U.S. Patent No. 5,444,164. Microarray analysis demonstrated this clone to be over-expressed in 75 to 80% of colon tumors tested (n=27), with no over-expression in normal colon samples (n=6), but with some low level over-expression in other normal tissues tested.

Further analysis of the PCR-subtraction library described above led to
20 the isolation of longer cDNA sequences for the clones of SEQ ID NO: 30, 115, 46, 118, 41, 47, 38, 113, 14 and 40 (known as C751P, C791P, C792P, C793P, C794P, C795P, C796P, C797P, C798P and C799P, respectively). These determined cDNA sequences are provided in SEQ ID NO: 123-132, respectively. Additional sequences for the clones C794P and C799P are shown in SEQ ID NO: 683 and 684, respectively,
25 and the predicted amino acid sequences are shown in SEQ ID NO: 685 and 686, respectively. Still further sequences for the clones C794P and C799P are shown in SEQ ID NO: 691 and 690, respectively, and to the predicted amino acid sequence as shown in SEQ ID NO: 693 and 692, respectively.

Using PCR subtraction methodology described above with minor
30 modifications, transcripts from a pool of three moderately differentiated colon adenocarcinoma samples were subtracted with a set of transcripts from normal brain,

pancreas, bone marrow, liver, heart, lung, stomach and small intestine. Modifications of the above protocol were included at the cDNA digestion steps and in the tester to drive hybridization ratios. In a first subtraction, the restriction enzymes PvuII, DraI, MscI and StuI were used to digest cDNAs, and the tester to driver ratio was 1:40, as suggested by Clontech. In a second subtraction, DraI, MscI and StuI were used for cDNA digestion and a tester to driver ratio of 1:76 was used. Following the PCR amplification steps, the cDNAs were clones into pCR2.1 plasmid vector. The determined cDNA sequences of 167 isolated clones are provided in SEQ ID NO: 205-371. These sequences were compared to sequences in the public databases as described above. The sequences of SEQ ID NO: 205, 207, 210-212, 214, 215, 218, 224-226, 228, 233, 234, 236, 238, 241, 242, 245, 246, 248, 250, 253, 254, 256, 259, 260, 262, 263, 266, 267, 270-273, 279, 282, 291, 293, 294, 298, 300, 302, 303, 310-313, 315, 317, 320, 322, 324, 332-335, 345, 347, 356, 358, 361, 362, 366, 369 and 371 were found to show some homology to previously identified ESTs. The remaining sequences were found to show some homology to previously identified genes.

Using the PCR subtraction technology described above, a cDNA library from a pool of primary colon tumors was subtracted with a cDNA library prepared from normal tissues, including brain, bone marrow, kidney, heart, lung, liver, pancreas, small intestine, stomach and trachea. The determined cDNA sequences for 90 clones isolated in this subtraction are provided in SEQ ID NO: 372-461. Comparison of these sequences with those in the public databases as described above, revealed no homologies to the sequences of SEQ ID NO: 426, 445 and 453. The sequences of SEQ ID NO: 372-378, 380-404, 406, 409-417, 419-423, 425, 427-429, 433-436, 438-441, 443, 446-451, 454, 455 and 457-461 showed some homology to previously identified genes, while the sequences of SEQ ID NO: 379, 405, 407, 408, 418, 424, 430-432, 437, 442, 444, 452 and 456 showed some homology to previously isolated ESTs.

Using the PCR subtraction methodology described above, a cDNA library prepared from a pool of metastatic colon tumors was subtracted with cDNA from a pool of normal tissues, namely brain, heart, lung, lymph nodes, PBMC,

pancreas, small intestine and stomach. The determined cDNA sequences for 82 clones isolated from the subtracted library are provided in SEQ ID NO: 487-568 (referred to as contigs 1-56 and 58-83, respectively). The sequences of SEQ ID NO: 487, 489, 490, 493-496, 499, 501-509, 511-518, 520-526, 529-542, 544, 546, 548-
5 552, 554, 555, 557, 558, 560, 562, 563, 566 and 567 showed some homology to previously identified gene sequences. The sequences of SEQ ID NO: 488, 491, 492, 497, 498, 500, 510, 519, 527, 528, 543, 545, 547, 553, 559, 564, 564 and 568 showed some homology to previously isolated ESTs.

10

Example 2

ISOLATION OF TUMOR POLYPEPTIDES
USING SCID MOUSE-PASSAGED TUMOR RNA

Human colon tumor antigens were obtained using SCID mouse
15 passaged colon tumor RNA as follows. Human colon tumor was implanted in SCID mice and harvested, as described in Patent Application Serial No. 08/556,659 filed 11/13/95, U.S. Patent No. 5,986,170. First strand cDNA was synthesized from poly A⁺ RNA from three SCID mouse-passaged colon tumors using a Lambda ZAP Express cDNA synthesis kit (Stratagene). The reactions were pooled and digested
20 with RNase A, T1 and H to cleave the RNA and then treated with NaOH to degrade the RNA. The resulting cDNA was annealed with biotinylated (Vector Labs, Inc., Burlingame, CA) cDNA from a normal resting PBMC plasmid library (constructed from Superscript plasmid System, Gibco BRL), and subtracted with streptavidin by phenol/chloroform extraction. Second strand cDNA was synthesized from the
25 subtracted first strand cDNA and digested with S1 nuclease (Gibco BRL). The cDNA was blunted with Pfu polymerase and EcoRI adaptors (Stratagene) were ligated to the ends. The cDNA was phosphorylated with T4 polynucleotide kinase, digested with restriction endonuclease XhoI, and size selected with Sephacryl S-400 (Sigma). Fractions were pooled, ligated to Lambda ZAP Express arms (Stratagene) and
30 packaged with Gigapack Gold III extract (Stratagene). Random plaques were picked,

phagemid was excised, transformed into XL0LR cells (Stratagene) and resulting plasmid DNA (Qiagen Inc., Valencia, CA) was sequenced as described above.

The determined cDNA sequences for 17 clones isolated as described above are provided in SEQ ID NO: 133-151, wherein 133 and 134 represent partial
5 sequences of a clone referred to as CoSub-3 and SEQ ID NO: 135 and 136 represent partial sequences of a clone referred to as CoSub-13. These sequences were compared with those in the public databases as described above. The sequences of SEQ ID NO: 139 and 149 showed no significant homologies to any previously identified sequences. The sequences of SEQ ID NO: 138, 140, 141, 142, 143, 148 and 149 showed some
10 homology to previously isolated expressed sequence tags (ESTs). The sequences of SEQ ID NO: 133-137, 144-147, 150 and 151 showed some homology to previously isolated gene sequences.

The determined cDNA sequences for an additional 46 clones isolated as described above, are provided in SEQ ID NO: 569-616, wherein SEQ ID NO: 573
15 and 574 represent the 3' and 5' determined cDNA sequences, respectively, for clone CS1-106, and SEQ ID NO: 579 and 580 represent the determined 3' and 5' cDNA sequences, respectively, for clone CS1-124. Comparison of the isolated sequences with those in the public databases revealed no significant homologies to the sequences of SEQ ID NO: 580, 585, 610 and 613. The sequences of SEQ ID NO: 569, 574-577,
20 584, 587, 592, 595, 598, 603 and 608 showed some homology to previously isolated ESTs, while the sequences of SEQ ID NO: 570-573, 578, 581-583, 586, 588-591, 593, 594, 596, 597, 599-602, 604-607, 609, 611, 612 and 614-616 showed some homology to previously isolated gene sequences.

25

Example 3

USE OF MOUSE ANTISERA TO IDENTIFY DNA SEQUENCES

ENCODING COLON TUMOR ANTIGENS

This example illustrates the isolation of cDNA sequences encoding colon tumor antigens by screening of colon tumor cDNA libraries with mouse anti-
30 tumor sera.

A cDNA expression library was prepared from SCID mouse-passaged

human colon tumor poly A⁺ RNA using a Stratagene (La Jolla, CA) Lambda ZAP Express kit, following the manufacturer's instructions. Sera was obtained from the colon tumor-bearing SCID mouse. This serum was injected into normal mice to produce anti-colon tumor serum. Approximately 600,000 PFUs were screened from the unamplified library using this antiserum. Using a goat anti-mouse IgG-A-M (H+L) alkaline phosphatase second antibody developed with NBT/BCIP (BRL Labs.), positive plaques were identified. Phage was purified and phagemid excised for several clones with inserts in a pBK-CMV vector for expression in prokaryotic or eukaryotic cells.

10 The determined cDNA sequences for 46 of the isolated clones are provided in SEQ ID NO: 152-197. The predicted amino acid sequences for the cDNA sequences of SEQ ID NO: 187, 188, 189, 190, 194, 195 and 197 are provided in SEQ ID NO: 198-204, respectively. The determined cDNA sequences were compared with those in the public database as described above. The sequences of
15 SEQ ID NO: 156, 168, 184, 189, 192 and 196 showed some homology to previously isolated ESTs. The sequences of SEQ ID NO: 152-155, 157-167, 169-182, 183, 185-188, 190, 194, 195 and 197 showed some homology to previously identified genes.

 The determined cDNA sequences for an additional eleven clones isolated as described above, are provided in SEQ ID NO: 617-627. Comparison of
20 these sequences with those in the public database as described above revealed no known homologies to SEQ ID NO: 621 and 623. The sequences of SEQ ID NO: 622 and 626 were found to show some homology to previously isolated ESTs, while the sequences of SEQ ID NO: 617-620, 624, 625 and 627 showed some homology to previously identified genes.

25 In further studies, a cDNA library was prepared from SCID-mouse grown colon tumors and screened with mouse anti-SCID serum as described above. Briefly first strand cDNA was synthesized from poly A⁺ RNA from three SCID mouse-grown human colon tumors using a Lambda ZAP Express cDNA synthesis kit (Stratagene). The reactions were pooled and digested with RNase A, T1 and H to
30 cleave the RNA and then treated with NaOH to degrade the RNA. The cDNA was annealed with biotinylated cDNA from a normal resting PBMC plasmid library

(constructed from Superscript plasmid system; Gibco BRL) and subtracted with streptavidin by phenol/chloroform extraction. Second strand cDNA was synthesized from the subtracted first strand cDNA and digested with S1 nuclease. The cDNA was blunted with Pfu polymerase and EcoRI adaptors were ligated to the ends. The cDNA
5 was phosphorylated with T4 polynucleotide kinase, digested with restriction endonuclease XhoI, and size selected with Sephacryl S-400 (Sigma). Fractions were pooled, ligated to Lambda ZAP Express arms (Stratagene) and packaged with Gigapack Gold III extract (Stratagene). The resulting library was screened with a mouse antiserum raised against serum from SCID mice containing human colon
10 tumors, including the three tumors used to prepare the cDNA libraries.

The determined cDNA for one clone isolated using this procedure is provided in SEQ ID NO: 630. This clone was found to show homology to a previously identified gene. The amino acid sequence encoded by the clone of SEQ ID NO: 630 is provided in SEQ ID NO: 631.

15 In subsequent studies, an additional cDNA library was prepared from a SCID-passaged human colon tumor and screened with a mouse antiserum raised against serum from the SCID mouse containing the colon tumor. The determined cDNA sequences for 51 clones isolated in these studies are provided in SEQ ID NO: 632-682. Comparison of these sequences with those in the public databases revealed
20 no significant homologies to the sequences of SEQ ID NO: 648 and 668. The sequence of SEQ ID NO: 642 showed some homology to previously isolated ESTs. The sequences of SEQ ID NO: 632-641, 643-647, 649-667 and 669-682 were found to show some homology to previously identified genes. SEQ ID NO: 684 and SEQ ID NO: 690 showed homology to human NADH/NADPH thyroid oxidase p138-tox
25 mRNA.

Example 4

ISOLATION AND CHARACTERIZATION OF COLON TUMOR POLYPEPTIDES BY CONVENTIONAL SUBTRACTION

Two cDNA libraries were constructed and used to create a subtracted cDNA library as follows.

Using the GibcoBRL Superscript Plasmid System with minor modifications, two cDNA libraries were created. The first library, referred to as CTCL, was prepared from a pool of mRNA samples from three colon adenocarcinoma tissue samples. Two of the samples were described as Duke's stage C and one as Duke's stage B. All three samples were grade III in histological status. A second library (referred to as DriverLibpcDNA3.1+) was prepared from a pool of normal tissues, namely liver, pancreas, skin, bone marrow, resting PBMC, stomach and brain. Both libraries were prepared using the manufacturer's instructions with the following modifications: an EcoRI-NotI 5' cDNA adapter was used instead of the provided reagent; the vector pCDNA3.1(+) (Invitrogen) was substituted for the pSPORT vector; and the ligated DNA molecules were transformed into ElectroMaxDH10B electrocompetent cells. Clones from the libraries were analyzed by restriction digest and sequencing to determine average insert size, quality of the library and complexity of the library. DNA was prepared from each library and digested.

The driver DNA was biotinylated and hybridized with the colon library tester DNA at a ratio of 10:1. After two rounds of hybridizations, streptavidin incubations and extractions, the remaining colon cDNAs were size-selected by column chromatography and cloned into the pCMV-Script vector from Stratagene. Clones from this subtracted library (referred to as CTCL-S1) were characterized as described above for the unsubtracted libraries.

The determined cDNA sequences for 20 clones isolated from the CTCL-S1 library are provided in SEQ ID NO: 462-479, 628 and 629. Comparison of these sequences with those in the public databases, as described above, revealed no significant homologies to the sequences of SEQ ID NO: 476, 477 and 479. The remaining sequences showed some homology to previously identified genes.

In further studies, a cDNA library was prepared from a pool of mRNA from three metastatic colon adenocarcinomas derived from liver tissue samples. All samples were described as Duke's stage D. Conventional subtraction was performed as described above, using the DriverLibpcDNA3.1+ library described above as the

driver. The resulting subtracted library (referred to as CMCL-S1) was characterized by isolating a set of clones for restriction analysis and sequencing.

The determined cDNA sequences for 7 clones isolated from the CMCL-S1 library are provided in SEQ ID NO: 480-486. Comparison of these
5 sequences with those in the public databases revealed no significant homologies to the sequence of SEQ ID NO: 483. The sequences of SEQ ID NO: 480-482 and 484-486 were found to show some homology to previously identified genes.

Example 5

10

SYNTHESIS OF POLYPEPTIDES

Polypeptides may be synthesized on a Perkin Elmer/Applied Biosystems Division 430A peptide synthesizer using Fmoc chemistry with HPTU (O-Benzotriazole-N,N,N',N'-tetramethyluronium hexafluorophosphate) activation. A
15 Gly-Cys-Gly sequence may be attached to the amino terminus of the peptide to provide a method of conjugation, binding to an immobilized surface, or labeling of the peptide. Cleavage of the peptides from the solid support may be carried out using the following cleavage mixture: trifluoroacetic acid:ethanedithiol:thioanisole:water:phenol (40:1:2:2:3). After cleaving for 2 hours,
20 the peptides may be precipitated in cold methyl-t-butyl-ether. The peptide pellets may then be dissolved in water containing 0.1% trifluoroacetic acid (TFA) and lyophilized prior to purification by C18 reverse phase HPLC. A gradient of 0%-60% acetonitrile (containing 0.1% TFA) in water (containing 0.1% TFA) may be used to elute the peptides. Following lyophilization of the pure fractions, the peptides may be
25 characterized using electrospray or other types of mass spectrometry and by amino acid analysis.

From the foregoing it will be appreciated that, although specific embodiments of the invention have been described herein for purposes of illustration,
30 various modifications may be made without deviating from the spirit and scope of the invention. Accordingly, the invention is not limited except as by the appended claims.

5

CLAIMS

10 1. An isolated polypeptide, comprising at least an immunogenic portion of a colon tumor protein, or a variant thereof, wherein the tumor protein comprises an amino acid sequence that is encoded by a polynucleotide sequence selected from the group consisting of:

15 (a) sequences recited in SEQ ID NOs: 2, 8, 15, 16, 22, 24, 30, 32-34, 36, 38, 40, 41, 46-49, 52, 54, 59, 60, 65-69, 79, 89, 90, 93, 99-101, 109-111, 116-119, 123-132, 138-142, 143, 148, 149, 156, 168, 170-182, 184, 189, 191-193, 196, 205, 207, 210-212, 214, 215, 218, 224-226, 228, 233, 234, 236, 238, 241, 242, 245, 246, 248, 250, 253, 254, 256, 259, 260, 262, 263, 266, 267, 270-273, 279, 20 282, 291, 293, 294, 298, 300, 302, 303, 310-313, 315, 317, 320, 322, 324, 332-335, 345, 347, 356, 358, 361, 362, 366, 369, 371-378, 380-404, 406, 409-417, 419-423, 425, 427-429, 433-436, 438-441, 443, 446-451, 454, 455, 457-461, 476, 477, 479, 483, 488, 491, 492, 497, 498, 500, 510, 519, 527, 528, 543, 545, 547, 553, 25 556, 559, 561, 564, 565, 568, 569, 574-577, 579, 580, 584, 585, 587, 592, 595, 598, 603, 608, 610, 613, 621-623, 626, 642, 648, 668, 682-684, 686, 690-691, and 694-1081;

 (b) sequences that hybridize to a sequence recited in any one of SEQ ID NOs: 2, 8, 15, 16, 22, 24, 30, 32-34, 36, 38, 40, 41, 46-49, 52, 30 54, 59, 60, 65-69, 79, 89, 90, 93, 99-101, 109-111, 116-119, 123-132, 138-142, 143, 148, 149, 156, 168, 170-182, 184, 189, 191-

193, 196, 205, 207, 210-212, 214, 215, 218, 224-226, 228, 233,
234, 236, 238, 241, 242, 245, 246, 248, 250, 253, 254, 256, 259,
260, 262, 263, 266, 267, 270-273, 279, 282, 291, 293, 294, 298,
300, 302, 303, 310-313, 315, 317, 320, 322, 324, 332-335, 345,
5 347, 356, 358, 361, 362, 366, 369, 371-378, 380-404, 406, 409-
417, 419-423, 425, 427-429, 433-436, 438-441, 443, 446-451, 454,
455, 457-461, 476, 477, 479, 483, 488, 491, 492, 497, 498, 500,
510, 519, 527, 528, 543, 545, 547, 553, 556, 559, 561, 564, 565,
568, 569, 574-577, 579, 580, 584, 585, 587, 592, 595, 598, 603,
10 608, 610, 613, 621-623, 626, 642, 648, 668, 682-684, 686, 690-
691, and 694-1081 under moderately stringent conditions; and
(c) complements of sequences of (a) or (b).

2. An isolated polypeptide according to claim 1, wherein the
15 polypeptide comprises an amino acid sequence that is encoded by a polynucleotide
sequence recited in any one of SEQ ID NOs: 2, 8, 15, 16, 22, 24, 30, 32-34, 36, 38,
40, 41, 46-49, 52, 54, 59, 60, 65-69, 79, 89, 90, 93, 99-101, 109-111, 116-119, 123-
132, 138-142, 143, 148, 149, 156, 168, 170-182, 184, 189, 191-193, 196, 205, 207,
210-212, 214, 215, 218, 224-226, 228, 233, 234, 236, 238, 241, 242, 245, 246, 248,
20 250, 253, 254, 256, 259, 260, 262, 263, 266, 267, 270-273, 279, 282, 291, 293, 294,
298, 300, 302, 303, 310-313, 315, 317, 320, 322, 324, 332-335, 345, 347, 356, 358,
361, 362, 366, 369, 371-378, 380-404, 406, 409-417, 419-423, 425, 427-429, 433-
436, 438-441, 443, 446-451, 454, 455, 457-461, 476, 477, 479, 483, 488, 491, 492,
497, 498, 500, 510, 519, 527, 528, 543, 545, 547, 553, 556, 559, 561, 564, 565, 568,
25 569, 574-577, 579, 580, 584, 585, 587, 592, 595, 598, 603, 608, 610, 613, 621-623,
626, 642, 648, 668, 682-684, 686, 690-691, and 694-1081, or a complement of any of
the foregoing polynucleotide sequences.

3. An isolated polypeptide comprising a sequence recited in any
30 one of SEQ ID NOs: 122 and 198-204.

4. An isolated polynucleotide encoding at least 15 amino acid residues of a colon tumor protein, or a variant thereof that differs in one or more substitutions, deletions, additions and/or insertions such that the ability of the variant to react with antigen-specific antisera is not substantially diminished, wherein the tumor protein comprises an amino acid sequence that is encoded by a polynucleotide comprising a sequence recited in any one of SEQ ID Nos: 2, 8, 15, 16, 22, 24, 30, 32-34, 36, 38, 40, 41, 46-49, 52, 54, 59, 60, 65-69, 79, 89, 90, 93, 99-101, 109-111, 116-119, 123-132, 138-142, 143, 148, 149, 156, 168, 170-182, 184, 189, 191-193, 196, 205, 207, 210-212, 214, 215, 218, 224-226, 228, 233, 234, 236, 238, 241, 242, 245, 246, 248, 250, 253, 254, 256, 259, 260, 262, 263, 266, 267, 270-273, 279, 282, 291, 293, 294, 298, 300, 302, 303, 310-313, 315, 317, 320, 322, 324, 332-335, 345, 347, 356, 358, 361, 362, 366, 369, 371-378, 380-404, 406, 409-417, 419-423, 425, 427-429, 433-436, 438-441, 443, 446-451, 454, 455, 457-461, 476, 477, 479, 483, 488, 491, 492, 497, 498, 500, 510, 519, 527, 528, 543, 545, 547, 553, 556, 559, 561, 564, 565, 568, 569, 574-577, 579, 580, 584, 585, 587, 592, 595, 598, 603, 608, 610, 613, 621-623, 626, 642, 648, 668, 682-684, 686, 690-691, and 694-1081, or a complement of any of the foregoing sequences.

5. An isolated polynucleotide encoding a colon tumor protein, or a variant thereof, wherein the tumor protein comprises an amino acid sequence that is encoded by a polynucleotide comprising a sequence recited in any one of SEQ ID NOs: 2, 8, 15, 16, 22, 24, 30, 32-34, 36, 38, 40, 41, 46-49, 52, 54, 59, 60, 65-69, 79, 89, 90, 93, 99-101, 109-111, 116-119, 123-132, 138-142, 143, 148, 149, 156, 168, 170-182, 184, 189, 191-193, 196, 205, 207, 210-212, 214, 215, 218, 224-226, 228, 233, 234, 236, 238, 241, 242, 245, 246, 248, 250, 253, 254, 256, 259, 260, 262, 263, 266, 267, 270-273, 279, 282, 291, 293, 294, 298, 300, 302, 303, 310-313, 315, 317, 320, 322, 324, 332-335, 345, 347, 356, 358, 361, 362, 366, 369, 371-378, 380-404, 406, 409-417, 419-423, 425, 427-429, 433-436, 438-441, 443, 446-451, 454, 455, 457-461, 476, 477, 479, 483, 488, 491, 492, 497, 498, 500, 510, 519, 527, 528, 543, 545, 547, 553, 556, 559, 561, 564, 565, 568, 569, 574-577, 579, 580, 584, 585, 587, 592, 595, 598, 603, 608, 610, 613, 621-623, 626, 642, 648, 668, 682-684, 686, 690-

691, and 694-1081, or a complement of any of the foregoing sequences.

6. An isolated polynucleotide, comprising a sequence recited in any one of SEQ ID NOs: 2, 8, 15, 16, 22, 24, 30, 32-34, 36, 38, 40, 41, 46-49, 52, 54, 59, 60, 65-69, 79, 89, 90, 93, 99-101, 109-111, 116-119, 123-132, 138-142, 143, 148, 149, 156, 168, 170-182, 184, 189, 191-193, 196, 205, 207, 210-212, 214, 215, 218, 224-226, 228, 233, 234, 236, 238, 241, 242, 245, 246, 248, 250, 253, 254, 256, 259, 260, 262, 263, 266, 267, 270-273, 279, 282, 291, 293, 294, 298, 300, 302, 303, 310-313, 315, 317, 320, 322, 324, 332-335, 345, 347, 356, 358, 361, 362, 366, 369, 371-378, 380-404, 406, 409-417, 419-423, 425, 427-429, 433-436, 438-441, 443, 446-451, 454, 455, 457-461, 476, 477, 479, 483, 488, 491, 492, 497, 498, 500, 510, 519, 527, 528, 543, 545, 547, 553, 556, 559, 561, 564, 565, 568, 569, 574-577, 579, 580, 584, 585, 587, 592, 595, 598, 603, 608, 610, 613, 621-623, 626, 642, 648, 668, 682-684, 686, 690-691, and 694-1081.

15

7. An isolated polynucleotide, comprising a sequence that hybridizes to a sequence recited in any one of SEQ ID NOs: 2, 8, 15, 16, 22, 24, 30, 32-34, 36, 38, 40, 41, 46-49, 52, 54, 59, 60, 65-69, 79, 89, 90, 93, 99-101, 109-111, 116-119, 123-132, 138-142, 143, 148, 149, 156, 168, 170-182, 184, 189, 191-193, 196, 205, 207, 210-212, 214, 215, 218, 224-226, 228, 233, 234, 236, 238, 241, 242, 245, 246, 248, 250, 253, 254, 256, 259, 260, 262, 263, 266, 267, 270-273, 279, 282, 291, 293, 294, 298, 300, 302, 303, 310-313, 315, 317, 320, 322, 324, 332-335, 345, 347, 356, 358, 361, 362, 366, 369, 371-378, 380-404, 406, 409-417, 419-423, 425, 427-429, 433-436, 438-441, 443, 446-451, 454, 455, 457-461, 476, 477, 479, 483, 488, 491, 492, 497, 498, 500, 510, 519, 527, 528, 543, 545, 547, 553, 556, 559, 561, 564, 565, 568, 569, 574-577, 579, 580, 584, 585, 587, 592, 595, 598, 603, 608, 610, 613, 621-623, 626, 642, 648, 668, 682-684, 686, 690-691, and 694-1081 under moderately stringent conditions.

30

8. An isolated polynucleotide complementary to a polynucleotide according to any one of claims 4-7.

9. An expression vector, comprising a polynucleotide according to any one of claims claim 4-8.

5 10. A host cell transformed or transfected with an expression vector according to claim 9.

11. An isolated antibody, or antigen-binding fragment thereof, that specifically binds to a colon tumor protein that comprises an amino acid sequence that
10 is encoded by a polynucleotide sequence recited in any one of SEQ ID NOs: 2, 8, 15, 16, 22, 24, 30, 32-34, 36, 38, 40, 41, 46-49, 52, 54, 59, 60, 65-69, 79, 89, 90, 93, 99-101, 109-111, 116-119, 123-132, 138-142, 143, 148, 149, 156, 168, 170-182, 184, 189, 191-193, 196, 205, 207, 210-212, 214, 215, 218, 224-226, 228, 233, 234, 236, 238, 241, 242, 245, 246, 248, 250, 253, 254, 256, 259, 260, 262, 263, 266, 267, 270-
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20 603, 608, 610, 613, 621-623, 626, 642, 648, 668, 682-684, 686, 690-691, and 694-1081, or a complement of any of the foregoing polynucleotide sequences.

12. A fusion protein, comprising at least one polypeptide according to claim 1.

25

13. A fusion protein according to claim 12, wherein the fusion protein comprises an expression enhancer that increases expression of the fusion protein in a host cell transfected with a polynucleotide encoding the fusion protein.

30 14. A fusion protein according to claim 12, wherein the fusion protein comprises a T helper epitope that is not present within the polypeptide of

claim 1.

15. A fusion protein according to claim 12, wherein the fusion protein comprises an affinity tag.

5

16. An isolated polynucleotide encoding a fusion protein according to claim 12.

17. A pharmaceutical composition, comprising a physiologically acceptable carrier and at least one component selected from the group consisting of:

10

- (a) a polypeptide according to claim 1;
- (b) a polynucleotide according to claim 4;
- (c) an antibody according to claim 11;
- (d) a fusion protein according to claim 12; and
- (e) a polynucleotide according to claim 16.

15

18. A vaccine comprising an immunostimulant and at least one component selected from the group consisting of:

20

- (a) a polypeptide according to claim 1;
- (b) a polynucleotide according to claim 4;
- (c) an antibody according to claim 11;
- (d) a fusion protein according to claim 12; and
- (e) a polynucleotide according to claim 16.

25

19. A vaccine according to claim 18, wherein the immunostimulant is an adjuvant.

20. A vaccine according to any claim 18, wherein the immunostimulant induces a predominantly Type I response.

30

21. A method for inhibiting the development of a cancer in a

patient, comprising administering to a patient an effective amount of a pharmaceutical composition according to claim 17.

22. A method for inhibiting the development of a cancer in a
5 patient, comprising administering to a patient an effective amount of a vaccine according to claim 18.

23. A pharmaceutical composition comprising an antigen-presenting cell that expresses a polypeptide according to claim 1, in combination with
10 a pharmaceutically acceptable carrier or excipient.

24. A pharmaceutical composition according to claim 23, wherein the antigen presenting cell is a dendritic cell or a macrophage.

15 25. A vaccine comprising an antigen-presenting cell that expresses a polypeptide comprising at least an immunogenic portion of a colon tumor protein, or a variant thereof, wherein the tumor protein comprises an amino acid sequence that is encoded by a polynucleotide sequence selected from the group consisting of:

(a) sequences recited in SEQ ID NOs: 1-121, 123-197, 205-630
20 and 632-684, 686, 690-691, and 694-1081;

(b) sequences that hybridize to a sequence recited in any one of SEQ ID NOs: 1-121, 123-197, 205-630 and 632-684, 686, 690-691, and 694-1081 under moderately stringent conditions; and

(c) complements of sequences of (i) or (ii);
25 in combination with an immunostimulant.

26. A vaccine according to claim 25, wherein the immunostimulant is an adjuvant.

30 27. A vaccine according to claim 25, wherein the immunostimulant induces a predominantly Type I response.

28. A vaccine according to claim 25, wherein the antigen-presenting cell is a dendritic cell.

5 29. A method for inhibiting the development of a cancer in a patient, comprising administering to a patient an effective amount of an antigen-presenting cell that expresses a polypeptide comprising at least an immunogenic portion of a colon tumor protein, or a variant thereof, wherein the tumor protein comprises an amino acid sequence that is encoded by a polynucleotide sequence
10 selected from the group consisting of:

(a) sequences recited in SEQ ID NOs: 1-121, 123-197, 205-630 and 632-684, 686, 690-691, and 694-1081;

(b) sequences that hybridize to a sequence recited in any one of SEQ ID NOs: 1-121, 123-197, 205-630 and 632-684, 686, 690-691, and 694-1081
15 under moderately stringent conditions; and

(c) complements of sequences of (i) or (ii) encoded by a polynucleotide recited in any one of SEQ ID NOs: 1-121, 123-197, 205-630 and 632-684, 686, 690-691, and 694-1081;

and thereby inhibiting the development of a cancer in the patient.

20

30. A method according to claim 29, wherein the antigen-presenting cell is a dendritic cell.

31. A method according to any one of claims 21, 22 and 29,
25 wherein the cancer is colon cancer.

32. A method for removing tumor cells from a biological sample, comprising contacting a biological sample with T cells that specifically react with a colon tumor protein, wherein the tumor protein comprises an amino acid sequence
30 that is encoded by a polynucleotide sequence selected from the group consisting of:

(i) polynucleotides recited in any one of SEQ ID NOs: 1-

121, 123-197, 205-630 and 632-684, 686, 690-691, and 694-1081; and

(ii) complements of the foregoing polynucleotides;

wherein the step of contacting is performed under conditions and for a time sufficient to permit the removal of cells expressing the antigen from the sample.

5

33. A method according to claim 32, wherein the biological sample is blood or a fraction thereof.

34. A method for inhibiting the development of a cancer in a patient, comprising administering to a patient a biological sample treated according to the method of claim 32.

35. A method for stimulating and/or expanding T cells specific for a colon tumor protein, comprising contacting T cells with at least one component selected from the group consisting of:

(a) polypeptides comprising at least an immunogenic portion of a colon tumor protein, or a variant thereof, wherein the tumor protein comprises an amino acid sequence that is encoded by a polynucleotide sequence selected from the group consisting of:

(i) sequences recited in SEQ ID NOs: 1-121, 123-197, 205-630 and 632-684, 686, 690-691, and 694-1081;

(ii) sequences that hybridize to a sequence recited in any one of SEQ ID NOs: 1-121, 123-197, 205-630 and 632-684, 686, 690-691, and 694-1081 under moderately stringent conditions; and

(iii) complements of sequences of (i) or (ii);

(b) polynucleotides encoding a polypeptide of (a); and

(c) antigen presenting cells that express a polypeptide of (a);

under conditions and for a time sufficient to permit the stimulation and/or expansion of T cells.

30

36. An isolated T cell population, comprising T cells prepared

according
to the method of claim 35.

37. A method for inhibiting the development of a cancer in a
5 patient, comprising administering to a patient an effective amount of a T cell
population according to claim 36.

38. A method for inhibiting the development of a cancer in a
patient, comprising the steps of:

10 (a) incubating CD4⁺ and/or CD8⁺ T cells isolated from a patient
with at least one component selected from the group consisting of:

(i) polypeptides comprising at least an immunogenic
portion of a colon tumor protein, or a variant thereof, wherein the tumor
protein comprises an amino acid sequence that is encoded by a polynucleotide
15 sequence selected from the group consisting of:

(1) sequences recited in SEQ ID NOs: 1-121, 123-
197, 205-630 and 632-684, 686, 690-691, and 694-1081

(2) sequences that hybridize to a sequence recited in
any one of SEQ ID NOs: 1-121, 123-197, 205-630 and 632-684, 686,
20 690-691, and 694-1081 under moderately stringent conditions; and

(3) complements of sequences of (1) or (2);

(ii) polynucleotides encoding a polypeptide of (i); and

(iii) antigen presenting cells that expresses a polypeptide of
(i);

25 such that T cells proliferate; and

(b) administering to the patient an effective amount of the
proliferated T cells, and thereby inhibiting the development of a cancer in the patient.

39. A method for inhibiting the development of a cancer in a
30 patient, comprising the steps of:

(a) incubating CD4⁺ and/or CD8⁺ T cells isolated from a patient

with at least one component selected from the group consisting of:

- (i) polypeptides comprising at least an immunogenic portion of a colon tumor protein, or a variant thereof, wherein the tumor protein comprises an amino acid sequence that is encoded by a polynucleotide sequence selected from the group consisting of:
 - (1) sequences recited in SEQ ID NOs: 1-121, 123-197, 205-630 and 632-684, 686, 690-691, and 694-1081;
 - (2) sequences that hybridize to a sequence recited in any one of SEQ ID NOs: 1-121, 123-197, 205-630 and 632-684, 686, 690-691, and 694-1081 under moderately stringent conditions; and
 - (3) complements of sequences of (1) or (2);
 - (ii) polynucleotides encoding a polypeptide of (i); and
 - (iii) antigen presenting cells that express a polypeptide of (i);
- such that T cells proliferate;
- (b) cloning at least one proliferated cell to provide cloned T cells;
- and
- (c) administering to the patient an effective amount of the cloned T cells, and thereby inhibiting the development of a cancer in the patient.

40. A method for determining the presence or absence of a cancer in a patient, comprising the steps of:

- (a) contacting a biological sample obtained from a patient with a binding agent that binds to a colon tumor protein, wherein the tumor protein comprises an amino acid sequence that is encoded by a polynucleotide sequence recited in any one of SEQ ID NOs: 1-121, 123-197, 205-630 and 632-684, 686, 690-691, and 694-1081 or a complement of any of the foregoing polynucleotide sequences;
- (b) detecting in the sample an amount of polypeptide that binds to the binding agent; and
- (c) comparing the amount of polypeptide to a predetermined cut-off value, and therefrom determining the presence or absence of a cancer in the patient.

41. A method according to claim 40, wherein the binding agent is an antibody.

5 42. A method according to claim 43, wherein the antibody is a monoclonal antibody.

43. A method according to claim 40, wherein the cancer is colon cancer.

10

44. A method for monitoring the progression of a cancer in a patient, comprising the steps of:

(a) contacting a biological sample obtained from a patient at a first point in time with a binding agent that binds to a colon tumor protein, wherein the
15 tumor protein comprises an amino acid sequence that is encoded by a polynucleotide sequence recited in any one of SEQ ID NOs: 1-121, 123-197, 205-630 and 632-684, 686, 690-691, and 694-1081 or a complement of any of the foregoing polynucleotide sequences;

(b) detecting in the sample an amount of polypeptide that binds to
20 the binding agent;

(c) repeating steps (a) and (b) using a biological sample obtained from the patient at a subsequent point in time; and

(d) comparing the amount of polypeptide detected in step (c) to the amount detected in step (b) and therefrom monitoring the progression of the cancer in
25 the patient.

45. A method according to claim 44, wherein the binding agent is an antibody.

30 46. A method according to claim 45, wherein the antibody is a monoclonal antibody.

47. A method according to claim 44, wherein the cancer is a colon cancer.

5 48. A method for determining the presence or absence of a cancer in a patient, comprising the steps of:

(a) contacting a biological sample obtained from a patient with an oligonucleotide that hybridizes to a polynucleotide that encodes a colon tumor protein, wherein the tumor protein comprises an amino acid sequence that is encoded by a polynucleotide sequence recited in any one of SEQ ID NOs: 1-121, 123-197, 205-630
10 and 632-684, 686, 690-691, and 694-1081 or a complement of any of the foregoing polynucleotide sequences;

(b) detecting in the sample an amount of a polynucleotide that hybridizes to the oligonucleotide; and

15 (c) comparing the amount of polynucleotide that hybridizes to the oligonucleotide to a predetermined cut-off value, and therefrom determining the presence or absence of a cancer in the patient.

49. A method according to claim 48, wherein the amount of
20 polynucleotide that hybridizes to the oligonucleotide is determined using a polymerase chain reaction.

50. A method according to claim 48, wherein the amount of polynucleotide that hybridizes to the oligonucleotide is determined using a
25 hybridization assay.

51. A method for monitoring the progression of a cancer in a patient, comprising the steps of:

(a) contacting a biological sample obtained from a patient with an
30 oligonucleotide that hybridizes to a polynucleotide that encodes a colon tumor protein, wherein the tumor protein comprises an amino acid sequence that is encoded by a

polynucleotide sequence recited in any one of SEQ ID NOs: 1-121, 123-197, 205-630 and 632-684, 686, 690-691, and 694-1081 or a complement of any of the foregoing polynucleotide sequences;

(b) detecting in the sample an amount of a polynucleotide that
5 hybridizes to the oligonucleotide;

(c) repeating steps (a) and (b) using a biological sample obtained from the patient at a subsequent point in time; and

(d) comparing the amount of polynucleotide detected in step (c) to the amount detected in step (b) and therefrom monitoring the progression of the
10 cancer in the patient.

52. A method according to claim 51, wherein the amount of polynucleotide that hybridizes to the oligonucleotide is determined using a polymerase chain reaction.

15

53. A method according to claim 51, wherein the amount of polynucleotide that hybridizes to the oligonucleotide is determined using a hybridization assay.

20

54. A diagnostic kit, comprising:

(a) one or more antibodies according to claim 11; and

(b) a detection reagent comprising a reporter group.

55. A kit according to claim 54, wherein the antibodies are
25 immobilized on a solid support.

56. A kit according to claim 54, wherein the detection reagent comprises an anti-immunoglobulin, protein G, protein A or lectin.

30

57. A kit according to claim 54, wherein the reporter group is selected from the group consisting of radioisotopes, fluorescent groups, luminescent

groups, enzymes, biotin and dye particles.

58. An oligonucleotide comprising 10 to 40 contiguous nucleotides that hybridize under moderately stringent conditions to a polynucleotide that encodes
5 a colon tumor protein, wherein the tumor protein comprises an amino acid sequence that is encoded by a polynucleotide sequence recited in any one of SEQ ID NOs: 2, 8, 15, 16, 22, 24, 30, 32-34, 36, 38, 40, 41, 46-49, 52, 54, 59, 60, 65-69, 79, 89, 90, 93, 99-101, 109-111, 116-119, 123-132, 138-142, 143, 148, 149, 156, 168, 170-182, 184, 189, 191-193, 196, 205, 207, 210-212, 214, 215, 218, 224-226, 228, 233, 234, 236,
10 238, 241, 242, 245, 246, 248, 250, 253, 254, 256, 259, 260, 262, 263, 266, 267, 270-273, 279, 282, 291, 293, 294, 298, 300, 302, 303, 310-313, 315, 317, 320, 322, 324, 332-335, 345, 347, 356, 358, 361, 362, 366, 369, 371-378, 380-404, 406, 409-417, 419-423, 425, 427-429, 433-436, 438-441, 443, 446-451, 454, 455, 457-461, 476, 477, 479, 483, 488, 491, 492, 497, 498, 500, 510, 519, 527, 528, 543, 545, 547, 553,
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59. A oligonucleotide according to claim 58, wherein the
20 oligonucleotide comprises 10-40 contiguous nucleotides recited in any one of SEQ ID NOs: 2, 8, 15, 16, 22, 24, 30, 32-34, 36, 38, 40, 41, 46-49, 52, 54, 59, 60, 65-69, 79, 89, 90, 93, 99-101, 109-111, 116-119, 123-132, 138-142, 143, 148, 149, 156, 168, 170-182, 184, 189, 191-193, 196, 205, 207, 210-212, 214, 215, 218, 224-226, 228, 233, 234, 236, 238, 241, 242, 245, 246, 248, 250, 253, 254, 256, 259, 260, 262, 263,
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30 592, 595, 598, 603, 608, 610, 613, 621-623, 626, 642, 648, 668, 682-684, 686, 690-691, and 694-1081.

60. A diagnostic kit, comprising:
- (a) an oligonucleotide according to claim 59; and
 - (b) a diagnostic reagent for use in a polymerase chain reaction or
- 5 hybridization assay.

SEQUENCE LISTING

<110> Corixa Corporation
 Xu, Jiangchun
 Lodes, Michael J.
 Secrist, Heather
 Benson, Darin R.
 Meagher, Madeleine Joy
 King, Gordon E.

<120> COMPOUNDS FOR IMMUNOTHERAPY AND
 DIAGNOSIS OF COLON CANCER AND METHODS FOR THEIR USE

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agcttgagct	ccaggaacgc	tttgrtcavg	gctgcctgtg	acctytgctc	tgbtctgcct	300
gcccgggcg						309

<210> 5
 <211> 412
 <212> DNA
 <213> Homo sapien

<400> 5						
gtccaatggc	aacaggaccc	ctcacttcta	ttcaatgtca	caagaaatga	cgcaagagcc	60
tatgtatgtg	gaatccagaa	ctkcagtgag	tgcaaacgcg	agtgaaccag	tcaccctgga	120
tgtcctctat	gggccagaca	scctccatca	tttccccccc	agactcgtct	tacctttcgg	180
gagcgaacct	caacctctcc	tgccactcgg	cctctaacc	atccccgcag	tattcttggc	240
kgtatcaatg	ggataccgca	gcaacacaca	caagttctct	ttatcgccaa	aatcacgcca	300
aataataacg	ggacctatgc	ctgttttgtc	tctaacttgg	ctactggccc	gcaataattc	360
catagtcaag	agcatcacag	tcttctgcat	ctggaacttc	tcctgggtctt	ct	412

<210> 6
 <211> 332
 <212> DNA
 <213> Homo sapien

<400> 6						
gtgcaagggc	tttacaaaa	ctgtgccagt	kretttctyca	tgwsrwcrga	tctgacttka	60
ttsaygttkt	atgagsysya	saatmctgaw	gctcmtyts	sakgrwsttc	kgsatmrgca	120
gtsrattcsa	catttgggrt	akrtymtctc	tsgaagysam	tgctcakgcag	tgrcayccwr	180
gkktcwgwt	gcwgtgrgtt	amcakcmwtr	ywtgksgsm	ayatrattta	ramrgtayak	240
cymtctcmct	cytycmccay	wtgcwcaass	mkcacacctc	ggccgcgacc	acgctaagcc	300

cgaattccag cacactggcg gccgttacta gt

332

<210> 7
 <211> 401
 <212> DNA
 <213> Homo sapien

<400> 7
 tgggtgttgtt ggcgccagtt ccctggacct ggaacagccg tgtggagggc ccggtctcca 60
 agttgttagt tcgggaggtg cctccctggg agaccaccat gcgtcccttg aagatggaca 120
 taagatgagg tggtcccttg cccattggga cccggatctg gactggttca ccattgtact 180
 tctggtccag gatgacggct tgataagctg atgctgtaat ttcatcttgg ctggcctggc 240
 tgccctgcc aacgtagagc aggtaatgct gcttctcgcc gatgaaggta ggtgtaagag 300
 cagcaggtaa gcaagttcgc ccccatagaa gtgggcctag ccacttggaa ttccagcaca 360
 ctggcgggcc gttactagtg ggatcccag ctcgggtacca a 401

<210> 8
 <211> 1151
 <212> DNA
 <213> Homo sapien

<400> 8
 ctctctccat aaaactcagc actttacaga tgtagaatat ataagcatgc caaatttact 60
 tatctgccac atacaaagca tcattccagg tgctagttag gggaaaaaaa agttggagat 120
 ttggtccctc gaggagctcc agatattaat ctacctaaact aagtccccag gtttcttcca 180
 ggcattggaag aattagtggg gctacatgga tgaggactag tcattgggca atatttcttg 240
 tacaagaagt ccctagacgc catactgagt ttttaagttcc ttaattccta atttaaggct 300
 tctagtgaag cctcctcaca gtaggcttca ctagggccac agtggcccta gacctctgac 360
 aatcccaccc tagacagact ttattgcaaa atgcgcctga agaggcagat gattcccaag 420
 agaactcacc aaatcaagac aaatgtccta gatctctagt gtggtagaac tatgcacct 480
 aacattgctg caaatgaac acacttttag acaccctgc agatatctaa gtaagtggag 540
 aagactatth tttcaacaaa catthtctct ttcaccctaa ctccataaaca gcttactggg 600
 gcttctgcaa gacagaaaga tcataattca gaaggtaacc atcgttatag acataaagtt 660
 tctggtcaaa aggggttatag ttaatgctct gcactttttc ctgcatctta tgcattacaa 720
 tgtctagttt gccctctttc cctgtgtttg tgtcataata gtaaaaaatc tcttctgttc 780
 tgggtgtttc tagtacgggt ggcatacaga accccacata ccatgaaggc gttagaagca 840
 gatggtttat actgcttggg ataccaagtg tttagcacct gaagtgtggg gtcattgagt 900
 ttactaatca ccatgttacc agtgctggct tcagttgaat aaataacca caatccattc 960
 tcatccacag caaagtcaat atcttgccaa gcaacattag catatgaaaa gcggttatta 1020
 taggcagcat tagggagagt ttgagtcaca gcaatcggtg tgggtggtcag gttactctg 1080
 gcaatattcc cggtgttgta catgttgacg tacatgttgt tgttgtaaac tgctgtacca 1140
 ctaccttggg c 1151

<210> 9
 <211> 604
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(604)
 <223> n = A,T,C or G

<400> 9
 ctgtgcaagg gctttacaaa aactgtgccg ggacttccca tgaggctgga ttgcttgatt 60
 catgttttat gagccccaca atactgaagc tccttttcca gggacttggc ataggcagtc 120
 aattccacat ttgggatagg tcctctctgg aagtgaatgt caggcagtg catccaagtt 180
 tctgcatgca gtgggttaac agccatgttt agggggaaca tgatttaaaa agtacatctc 240

tctccctcct	ccccacatg	cacaaggctc	acatctcatt	atgggtgkcg	cccatgtcac	300
attaaagtgt	gatacttkgg	ttttgaaaac	attcaaacag	tctctgtgga	aatctggaga	360
gaaattggcg	gagagctgcc	gtggtgcatt	cctcctgtag	tgcttcaagn	taatgcttca	420
tcctttntta	ataacttttg	atagacaggg	gctagtcgca	cagacctctg	ggaagccctg	480
gaaaacgctg	atgcttggtt	gaagatctca	agcgcagagt	ctgcaagttc	atccccctctt	540
tcctgaggtc	tggttggtgg	aggctgcaga	acattggtga	tgacatggac	cacgccattt	600
gtgg						604

<210> 10
 <211> 473
 <212> DNA
 <213> Homo sapien

<400> 10						
tcgagaagat	ccctagttag	actttgaacc	gtatcctggg	cgacccagaa	gccctgagag	60
acctgctgaa	caaccacatc	ttgaagtcag	ctatgtgtgc	tgaagccatc	gttgcggggc	120
tgtctgtgga	gaccttgagg	ggcacgacac	tggaggtggg	ctgcagcggg	gacatgctca	180
ctatcaacgg	gaaggcgatc	atctccaata	aagacatcct	agccaccaac	ggggtgatcc	240
actacattga	tgagctactc	atcccagact	cagccaagac	actatttgaa	ttggctgcag	300
agtctgatgt	gtccacagcc	attgaccttt	tcagacaagc	cggcctcggc	aatcatctct	360
ctggaagtga	gcggttgacc	ctcctgggct	cccctgaatt	ctgtattcaa	agatggaacc	420
cctccaattg	atgcccatac	aaggaatttg	cttcggaacc	acataattaa	aga	473

<210> 11
 <211> 411
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(411)
 <223> n = A,T,C or G

<400> 11						
tcctcattgg	tcggggccaa	aagcgtgtac	tggccgttac	cttcaagcat	cgtgttgagc	60
cctgatgcag	ccacagcagc	ccgaagggtc	tcaaagggtg	cctcgatctc	aatgatctgc	120
tggatgttgt	tggtgatggt	ggagatgacc	ttatcgatga	ggtgcaccac	cccgttggtt	180
gcattggtgt	cggttttyar	carccgggca	cagttcacag	ttacaatccc	attagatag	240
tggtggatct	nggatgttgg	aattctgtgt	catagnaggt	gaggggtcat	gcccgtgttt	300
cagctcatca	gtcaggactc	gcctgcccac	catatggtaa	gcsgragggc	atttgagcag	360
ctcaatgttt	gacattgctg	gaccagggga	gttccagcac	ttctangang	a	411

<210> 12
 <211> 560
 <212> DNA
 <213> Homo sapien

<400> 12						
tacttgcttg	gagatwgcyt	tykckwtmtg	ytcwrawgtc	cgtggataca	gaaatctctg	60
caggcaagtt	gctccagagc	atattgcagg	acaagcctgt	aacgaatagt	taaattcacg	120
gcattctggat	tcctaattct	tttccgaaat	ggcaggtgtg	agtgcctgta	taaaatatct	180
tatgtttacc	ttcaacttct	tggtctggct	atgtggatct	ttgatcctag	cattagcaat	240
atgggtacga	gtaagcaatg	actctcaagc	aatttttggt	tctgaagatg	taggctctag	300
ctcctacgtt	gctgtggaca	tattgattgc	tgtagggtgc	atcatcatga	ttctgggctt	360
cctgggatgc	tgcggtgcta	taaaagaaaag	tcgctgcatg	cttctgttgt	ttttcatagg	420
cttgcttctg	atcctgctcc	tgcaggtggg	cgacaggtat	cctaggagct	gttttcaaag	480
ctaagtctga	tcgcattgtg	aatgaaactc	tctatgaaaa	cacaaagctt	ttgagcgcca	540
caggggaaaag	tgaaaaacaa					560

<210> 13
 <211> 150
 <212> DNA
 <213> Homo sapien

<400> 13
 gggcaggctg tcttttttaaa atgtctcggc tagctagacc acagatatct tctagacata 60
 ttgaacacat ttaagatttg agggatataa gggaaaatga tatgaatgtg tatttttact 120
 caaaataaaaa gtaactgttt acgttgggtga 150

<210> 14
 <211> 403
 <212> DNA
 <213> Homo sapien

<400> 14
 ctgctgcctg tggcgtgtgt gggctggatc ccttgaaggc tgagtttttg agggcagaaa 60
 gctagctatg ggtagccagg tgttacaaag gtgctgctcc ttctccaacc cctacttggg 120
 ttccctcacc ccaagcctca tgttcatacc agccagtggg ttcagcagaa cgcattgacac 180
 cttatcacct ccctccttgg gtgagctctg aacaccagct ttggccctc cacagtaagg 240
 ctgctacatc aggggcaacc ctggctctat cattttcctt ttttgccaaa aggaccagta 300
 gcataggtga gccctgagca ctaaaaggag ggggtccctga agctttccca ctatagtgtg 360
 gagtctgtc cctgaggtgg gtacagcagc cttgggttct ctg 403

<210> 15
 <211> 688
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(688)
 <223> n = A,T,C or G

<400> 15
 caaagcacat tttaatcatt tatttttaaaa gggggagtaa agcattttaa ctgccaatcc 60
 tatagactag gacttgaaca tcaaaggaaa aatagacaaa gactagatga taaagtcatt 120
 caaaagcaca gaagcacatc acatacacca gcaagggttc caactactgc actgattaac 180
 tagatactct caatagcttt tctatagctc gtcctagaaa aaaaaattaa attttcattt 240
 tcttacaagt tccaggctta aacaaaggca aaaattacat gcaacaactg atacactcat 300
 aagttgcaca tatgtcccaa ggtctttatt agataacaat aaatgctagc actttgtcac 360
 tgccatcaga ttttccttat agtcttagag tcatgtaaat aaaagttoca taatgaaatt 420
 aaagaaaatt aatttttcta atcttagatc agttccatag aaaactatta atttttttta 480
 agtaggcagt agaagggggg tgggtggggg tggaattggg tagtaagtct ggttctaata 540
 ttctgagctg cttttggaag gaagttatga ggtagaagat tctactgact tttagtaagg 600
 tggacaatga gagaaaagaa aaagcaggtg cctcatcnnn agatccttnt ggtattttatn 660
 tgccangtnc nanntaatnc atanaaag 688

<210> 16
 <211> 408
 <212> DNA
 <213> Homo sapien

<400> 16
 caggtcatca agatgactta caggatgtaa tagggagagc tgtcgagatt ggtgttaaaa 60
 agtttatgat tacaggtgga aatctacaag acagtaaaga tgcactgcat ttggcacaaa 120
 caaatgggtat gtttttcagt acagttggat gtcgtcctac aagatgtggg gaatttgaaa 180

agaataaacc	tgatctttac	ttaaaggagt	tgctaaatct	tgctgaaaac	aataaaggga	240
aagttgtggc	aataggagaa	tgcggaacttg	atthttgacc	gactgcagtt	ttgtcccaaa	300
gatactcaac	tcaaatatth	tgaaaaacag	tttgaactgt	cagaacaaac	aaaattacca	360
atgtttcttc	attgtccgaa	actcacatgc	tgaatthttg	gacataat		408

<210> 17

<211> 407

<212> DNA

<213> Homo sapien

<400> 17

ggctcctggg	aggccctagg	ggagcaccgt	gatggagagg	acagagcagg	ggctccagca	60
ccttctttct	ggactggcgt	tcacctccct	gctcagtgct	tgggctccac	ggcaggggt	120
cagagcactc	cctaatttat	gtgctatata	aatatgtcag	atgtacatag	agatctatth	180
tttctaaaac	attcccctyc	ccactcctct	cccacagagt	gctggactgt	tccaggccct	240
ccagtgggct	gatgctggga	cccttaggat	ggggctccca	gctcctttct	cctgtgaatg	300
gaggcagaag	acctccaata	aagtgccttc	tgggctthtt	ctaacctttg	tcttagctac	360
ctgtgtactg	aaatthgggc	ctthggatcg	aatatggtca	agaggth		407

<210> 18

<211> 405

<212> DNA

<213> Homo sapien

<400> 18

tgaagagtca	acttgggcct	ggaggactga	taaagthttgt	gattthtgagg	gcctctaaaa	60
gtattaaagc	agcggcagcc	gctgcacgca	gacatgaggg	ctaggthtaa	acagtaagat	120
caagthgtth	ggacagaaa	gctacagagt	gtggctcctg	ctcttggtga	agaattacga	180
ccacgctaac	catgcctagg	aaggaaaagga	gthattgtth	tgtagaaaag	tgctggggth	240
tgagagatca	gtcggacacg	attggcaggg	agagcacgtg	tgththtatg	agaattatgc	300
ccgagatagg	taacagatga	ggaagaaatt	tgggcttgat	tgaagtaatg	ggggctgtct	360
gtgaagctth	gcagcagtag	agcctaggta	atthgtctgag	cctaa		405

<210> 19

<211> 401

<212> DNA

<213> Homo sapien

<400> 19

tcctgacatt	cctgccttct	tatattaata	agacaaataa	aacaaaatag	tgthgaagtg	60
ttggggcagc	gaaaatthtt	ggggggtggt	atggagagat	aatgggcat	gthtctcagg	120
gctgcttcaa	gcgggattag	gggcggcgtg	ggagcctaga	gtgggagaga	ttaagctgaa	180
gggaggtctt	gtggtaagg	gtgatatcat	gggatgtta	gaagaaacat	ttgtcgtata	240
gaatgattgg	tgatggcctg	gatacggtth	tggatgatt	gagaagctaa	atggaagata	300
caaggtccga	ataaaaagg	gagaaaaatg	ggtattaaat	gtctaagaat	tgggaggacc	360
taggacatct	gattagagag	tgctaaggga	gattcagcat	a		401

<210> 20

<211> 331

<212> DNA

<213> Homo sapien

<400> 20

aggtccagct	ctgtctcata	cttgactcta	aagtcacag	cagcaagacg	ggcattgtca	60
atctgcagaa	cgatgcgggc	attgtccaca	gtatthgcga	agatctgagc	cctcaggthc	120
tcgatgatct	tgaagtaatg	gctccagthc	ctgacctggg	gtcccttctt	ctccaagthc	180
tcccggattth	tgctctccag	cctccggttc	tcggctctcca	ggctcctcac	tctgtccagg	240
taagaggcca	ggcggctgth	caggctthtc	atggctctct	tctcgttctg	gatgcctccc	300

attcctgcc a gacccccggc tatccccgtg g

331

<210> 21
<211> 346
<212> DNA
<213> Homo sapien

<220> .
<221> misc_feature
<222> (1)...(346)
<223> n = A,T,C or G

<400> 21	
ggtccaccac ttgtacccga tatggacttc cggcttctct gtccaatgga gccacactaa	60
agatctcacc agtcacgtgg tcaattttaa gccaacctct tgtgtctccc ctcaagtgaat	120
agcttatgtc cagaccttct ggatccttgg cagtcacatt gccoacttta gtgcctatag	180
ctacatcctc actgactttc gcttgggaata cgtgttggga aaattgaggt gcttcattca	240
catctgtcac aataagncgt gaacttggca aaagaacttg cattgtactt cacaccaaac	300
actagaggct caggattttc tgctttgaac acaatgttgg aaacag	346

<210> 22
<211> 360
<212> DNA
<213> Homo sapien

<220> .
<221> misc_feature
<222> (1)...(360)
<223> n = A,T,C or G

<400> 22	
gaagactccc tctctcggaa gccggatccc gagccgggca ggatggatca ccaccagccg	60
gggactgggc gctaccaggt gcttcttaat gaagaggata actcagaatc atcggctata	120
gagcagccac ctacttcaaa cccagcacc gcagattgtg caggctgcgt cttcagcacc	180
agcacttgaa actgactctt cccctccacc atatagtagt attactgggt gaagtaccta	240
caacttcaga tacagaagtt tacggtgagt tttatcccgt gccacctccc tatagcgttg	300
ctacctctct tcctacnwta cgatgaaagc tgagaaggct aaagctgctg caatggcatg	360

<210> 23
<211> 251
<212> DNA
<213> Homo sapien

<400> 23	
ggcggagctc caccagcagc tggaaaagga accttttgag gatggctttg caaatgggga	60
agaaagtact ccaaccagag atgctgtggc cacgtatact gcagaaagta aaggagtctg	120
gaagtttggc tggatcaagg gtgtattagt acgttgtatg ttaaacattt ggggtgtgat	180
gcttttcatt agattgtcat ggattgtggg tcaagctgga ataggtctat cagtccttgt	240
aataatgatg g	251

<210> 24
<211> 421
<212> DNA
<213> Homo sapien

<220> .
<221> misc_feature
<222> (1)...(421)

<223> n = A,T,C or G

<400> 24

cagggtctt	ccagggtgtt	actccagctc	cagcttcagc	tccagctcca	ggtcggggctc	60
cagctccagc	cgcagcttar	gcagcgggag	gttctgtgtc	ccagttgttt	tccaatttca	120
ccggctccc	tggatgamcg	ygggacctgy	caswgctcct	gtktycctgc	yagsacacca	180
cnytttyccg	tggacacrar	kggaacckct	tggaattcac	agctyatgtt	ctttctcara	240
agtttgagaa	agaactttct	aaagtgaggg	aatatgtcca	attaattagt	gtgtatgaaa	300
agaaaactgtt	aaacctaact	gtccgaattg	acatcatgga	raaaggatac	catttcttac	360
actgaactgg	acttcgagct	gatcaaggta	gaagtgaagg	agatggaaaa	actggtcata	420
c						421

<210> 25

<211> 381

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(381)

<223> n = A,T,C or G

<400> 25

gaactttttg	tttcttttatt	ttcaatat	gtcttattaa	tatttttctt	attttataat	60
gcaattacaa	caatttagga	nacaaaacaa	tataaacaaa	agaatgttaa	atagtttttt	120
ttaaaaaata	gcttggtgct	tgcaanaaag	tccatataat	cttattcccc	cccaaataa	180
attttatact	ttgcactaaa	ccaaaatagc	ttatggaaaa	ttagtattaa	atagctaaac	240
acagaaaacc	tacagctata	aataacataa	aatacagttt	aactttaatg	ngatgcttaa	300
acaaagcaaa	ctatgatgca	atatgaatca	acttcattaa	ttggacaagt	ccagnggagg	360
cacaaattag	ataagcacta	a				381

<210> 26

<211> 401

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(401)

<223> n = A,T,C or G

<400> 26

ggaaaaggga	ctggcctctc	tgaagagtga	gatgagggaa	gtggaaggag	agctggaaaag	60
gaaggagctg	gagtttgaca	cgaatatgga	tgcagtacag	atggtgatta	cagaagccca	120
gaaggttgat	accagaagcc	aagaacgctg	gggttacaat	ccaagacaca	ctcaacacat	180
tagacgggct	cctgcattct	gatggaccaa	ccttttcang	tggttaagatt	gaagangggg	240
cctgggctta	cctgggaagc	aaaaactttt	cccganccaa	ggaacccagg	attcaaccan	300
gcnacttgc	ggccaaggaa	ggcanaactn	ggaanaaaag	gccccttaag	caaaagggnc	360
accttcattt	gctnggaaan	cagcctttan	ttggaatctt	g		401

<210> 27

<211> 383

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(383)

<223> n = A,T,C or G

<400> 27

aattgcaact	ggacttttat	tgggcagtta	cnacaacnaa	tgttttcana	aaaatatttg	60
gaaaaaatat	accacttcat	agctaagtct	tacagagaan	aggatttgct	aataaaactt	120
aagttttgaa	aattaagatg	cnggtanagc	ttctgaacta	atgcccacag	ctccaaggaa	180
nacatgtcct	atthagttat	tcaaatacca	gttgagggca	ttgtgattaa	gcaaacaata	240
tatttgttan	aactttgntt	ttaaattact	gntncttgac	attacttata	aaggagnctc	300
taactttcga	tttctaaaac	tatgtaatac	aaaagtatan	ntttcccat	tttgataaaa	360
gggcnanga	tactgantag	gaa				383

<210> 28

<211> 401

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(401)

<223> n = A,T,C or G

<400> 28

ggtcgcgttt	cccctggctc	acagtctgcc	attattttgca	tttttaaattg	aagaaaagtt	60
taacgtggat	ggatggacag	ttacaatcc	agtggaagaa	tacaggaggc	agggcttgcc	120
caatcaccat	tggagaataa	cttttattaa	taagtgtcat	gagctctgag	acacttacc	180
tgctcttttg	gtggttccgt	atcgtgcctc	anatgatgac	ctccggagag	ttgcaacttt	240
taggtcccca	aatcgaattc	cagtgtgtgc	atggattcat	ccagaaaata	agaagggtcat	300
tgtgcgttgc	agtcagcctc	ttgtcggtat	gagtgggaaa	cgaataaag	atgatgagaa	360
atatctcgat	gttatcaggg	agactaataa	acaaatttct	a		401

<210> 29

<211> 401

<212> DNA

<213> Homo sapien

<400> 29

atatgagttt	gccatctcca	tggatgccat	ttcaatgcct	tcagggtaat	cattctctcc	60
ccaaagactg	cccacggggt	catcactcct	gtgacgaaat	gagggttgga	ttgaagatgt	120
tctgtgagc	acccccctgg	tcacttttgg	ggtctcagaa	gagccataat	catgaccatt	180
ctcagcatct	gaataatcag	gttctctcca	agtgtctggc	aagttctgat	tgtcctcagc	240
actgggatag	tctggctccc	caaaaaagg	tggagagtta	ggttgaatgt	cagcgcctgg	300
ataatcaggc	tttcccagag	agtctgcgta	tggattgatt	ctaaaacttg	tatgttccag	360
attctttctg	gatcctggat	ggttcaaatt	ggctctgggt	c		401

<210> 30

<211> 401

<212> DNA

<213> Homo sapien

<400> 30

cctgaactat	ttattaaaaa	catgaccact	cttggctatt	gaagatgctg	cctgtatttg	60
agagactgcc	atacataata	tatgacttcc	tagggatctg	aaatccataa	actaagagaa	120
actgtgtata	gcttacctga	acaggaatcc	ttactgatat	ttatagaaca	gttgatttcc	180
cccatcccca	gtttatggat	atgctgcttt	aaacttggaa	gggggagaca	ggaagtttta	240
attgttctga	ctaaacttag	gagttgagct	aggagtgcgt	tcatggtttc	ttcactaaca	300
gaggaattat	gctttgcact	acgtccctcc	aagtgaagac	agactgtttt	agacagactt	360
tttaaaatgg	tgccctacca	ttgacacatg	cagaaattgg	t		401

<210> 31
 <211> 297
 <212> DNA
 <213> Homo sapien

<400> 31
 acctccatta atgccaggtg ttcctcctct gatgccagga atgccaccag ttatgccagg 60
 catgccacct ggattgcac atcagagaaa atacaccag tcattttgcg gtgaaaacat 120
 aatgatgcca atgggtggaa tgatgccacc tggaccagga ataccacctc tgatgcctgg 180
 aatgccacca ggtatgcccc cacctgttcc acgtcctgga attcctccaa tgactcaagc 240
 acaggctgtt tcagcgccag gtattcttaa tagaccacct gcaccaacag caactgt 297

<210> 32
 <211> 401
 <212> DNA
 <213> Homo sapien

<400> 32
 caaacctgga gccaaaaagg acacaaagga ctctcgaccc aaactgcccc agaccctctc 60
 cagaggttgg ggtgaccaac tcactctggac tcagacatat gaagaagctc tatataaatc 120
 caagacaagc aacaaacctt tgatgattat tcactacttg ggtgagtgcc cacacagtca 180
 agcttttaaag aaagtgtttg ctgaaaataa agaaatccag aaattggcag agcagtttgt 240
 cctcctcaat ctggtttatg aaacaactga caaacacctt tctcctgatg gccagtatgt 300
 ccccaggatt atgtttgttg acccatctct gacagttaga gcccgatatc actggaagat 360
 attcaaaccg tctctatgct tacgaacctg cagatacagc t 401

<210> 33
 <211> 401
 <212> DNA
 <213> Homo sapien

<400> 33
 agcagagggga caggaatcat tcggccactg ttcagacggg agccacaccc ttctccaatc 60
 caagcctggc cccagaagat cacaagagc caaagaaact ggcaggtgtc cagcgctcc 120
 aggccagtga gttggttgtc acttactttt tctgtgggga agaaattcca taccggagga 180
 tgctgaaggc tcagagcttg accctgggccc actttaaaga gcagctcagc aaaaaggga 240
 attataggta ttacttcaaa aaagcaagcg atgagtttgc ctgtggagcg gtgtttgagg 300
 agatctggga ggatgagacg gtgctcccga tgtatgaagg ccggattctg ggcaaagtgg 360
 agcggatcga ttgagccctg gggctctggct ttggtgaact g 401

<210> 34
 <211> 401
 <212> DNA
 <213> Homo sapien

<400> 34
 aacaatggct atgaaggcat tgtcgttgca atcgacccca atgtgccaga agatgaaaca 60
 ctcatccaac aaataaagga catggtgacc caggcatctc tgtatctgtt tgaagctaca 120
 ggaaagcgat tttatttcaa aaatgttgcc attttgattc ctgaaacatg gaagacaaag 180
 gctgactatg tgagaccaa acttgagacc taaaaaatg ctgatgttct ggttgcttga 240
 gtctactcct ccaggtaatg atgaacccta cactgagcag atggggcaac tgtggagaga 300
 aggggtgaaa ggatcccacc tcactcctga tttcattgca ggaaaaaagt tagcttgaat 360
 atggaccaca aggtaagggc atttgtccat gaatggggct c 401

<210> 35
 <211> 401
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(401)
 <223> n = A,T,C or G

<400> 35
 catttcttcc tactagactg cccccttgat ccactggcag aaatgatggc accaccttgt 60
 cttcaggtgg tgctccttca ttattccaag gatgcagcat ctctatggtg ccaggatagg 120
 gggtaaaaggc tttggcgccc tttccgcaat ggcacatcag cagtaaaagt ggtaccaata 180
 gcangaacag aaaggggcaaa atcatgancg caattgctgc ggggtcccaag cccacatagg 240
 aatcatgctg ngcttccctg canccgctgc catgcaagac actnacaaac tngngantgta 300
 aggacctgct tttcaggaca actaaaaccc tgattgnctg aaatcaggaa ctgaatttca 360
 cttctcccaa gctttttctc acttttggtgc aacancacac t 401

<210> 36
 <211> 401
 <212> DNA
 <213> Homo sapien

<400> 36
 cctgctagaa tcaactgccgc tgtgctttcg tggaaatgac agttccttgt tttttttggt 60
 tctgtttttg ttttacatta gtcattggac cacagccatt caggaactac cccctgcccc 120
 acaaagaaat gaacagtgt agggagaccc agcagcacct ttccctccaca caccttcatt 180
 ttgaagtctg ggtttttgtg ttaagttaat ctgtacattc tgtttgccat tgttacttgt 240
 actatacatc tgtatatagt gtacggcaaa agagtattaa tccactatct ctagtgttgc 300
 actttaaaatc agtacagtac ctgtacctgc acggtcaccc gctccgtgtg tcgccctata 360
 ttgagggctc aagctttccc ttgttttttg aaaggggttt a 401

<210> 37
 <211> 401
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(401)
 <223> n = A,T,C or G

<400> 37
 cnnctntgna atggantnnt tgnctaaaan ganttgaiga tgatgaanat ccctangang 60
 antaagcatg gancntgac nttnctnng cactccttta cgacacggaa acangnatca 120
 ncatgatggt accaganacc ttatcacna cgcgcacnga nctgactnat tccaaagagt 180
 tngngttacg gncatccggt cattgctcgt gccattgct gcagggctga tntactggt 240
 gcttattatg ntggccctga ggatgctcca caatgaatat aagcatgctg catgatcagc 300
 ggcaacanat gctctgccgt ttgcactaca tctttcacgg acacnatntc gaanacgggc 360
 acnttgcana gttagacttg gaatgcatgg ngccggncan n 401

<210> 38
 <211> 401
 <212> DNA
 <213> Homo sapien

<400> 38
 aattggctca ctctctcaag gcaagcactg tctcaaggca gtctcaaggc agagatgaca 60
 cagcaaaaaa cagaggggga gaaaaaagtc tattattggc ttgtgattta caaaagccaa 120
 agtccttttag ataaaaggcc aggagtcgta ccaacataga taccaaatcc aggagaacac 180
 agaccagcga taagaggggac gcttcccat gaccagacc agcctaaagc ccctgtgggg 240


```
gcagccagtg gggagctgtc agaccttgga catgggtggc tttgagaatg ggtctgccct 300
tctctccctg accagttggg atagacacct gactggaatc cttgacactg gcaggtgttt 360
ctatgaacag agaggactgt gcctgtcttc ctgaatccca a 401
```

```
<210> 39
<211> 401
<212> DNA
<213> Homo sapien
```

```
<220>
<221> misc_feature
<222> (1)...(401)
<223> n = A,T,C or G
```

```
<400> 39
tctggtangg agcaattcta ttatttggca ttgcatggct gggttgaatt aaaacagggg 60
gtgagaacag gtgagtctag aagtccaact ctgaaaagga ccactgtaca tttgaacaca 120
cggctgtgtt aaagatgctg ctaatgtcag tcaactgggtg cactaaagga tctcttattt 180
tatgtaaaac gttgggaatg acaagatana actgatactc tggtaagtta ccctctgaag 240
ctacttcttg tgaaatacta atgacagcat catcctgccg agcgaaaagag gcaggcataa 300
gcaaggacaa attaaaaggg ggtaagagcc ttatcatgat gaggagtctt gttttgacat 360
cttgggaaaa gctgtccata gtgtgaagtc gtcaatttct c 401
```

```
<210> 40
<211> 401
<212> DNA
<213> Homo sapien
```

```
<400> 40
tctggtcacc caactcttgt ggaagagggg aattgagatc gagtactgaa tatctggcag 60
agaggctgga atccttcagc cccagagccc agggaccact ccagtagatg cagagagggg 120
cctgcccagg ggtcagggca gtgggtatca ctggtgacat caagaatatc agggctgggg 180
aggcatcttt gtttcctggt gccctcctca aagttgctga cactttgggg acgggaaggg 240
gtagaagtag ggctgctcct tttggagctg gagggaatag acctggagac agagttgagg 300
cagtcgggct gtccaggttc taagcatcac agcttctgca ctgggctctg aggagattct 360
cagccagagg atcccagcct cctcctccct caaatgtcaa g 401
```

```
<210> 41
<211> 401
<212> DNA
<213> Homo sapien
```

```
<220>
<221> misc_feature
<222> (1)...(401)
<223> n = A,T,C or G
```

```
<400> 41
ctggactaaa aatgtccact atgggggtgca ctctacagtt tttgaaatgc taggaggcag 60
aaggggcaga gagtaaaaaa catgacctgg tagaaggaag agaggcaaag gaaactaggt 120
ggggaggatc aattagagag gaggcacctg ggatccacct tcttccttan gtcccctcct 180
ccatcagcaa aggagcactt ctctaatacat gccctcccga agactggctg ggagaagggt 240
taaaaacaaa aaatccagga gtaagagcct taggtcagtt tgaaattgga gacaaactgt 300
ctggcaaaag gtgcganagg gagcttgtgc tcangagtcc agcccgtcca gcctcggggt 360
gtangtttct gaagtgtgcc attggggcct caccttctct g 401
```

```
<210> 42
<211> 310
```

<212> DNA

<213> Homo sapien

<400> 42

ggttcgacaa	atccccaaaa	atggcaaatt	aagccctgtg	acaaaataag	ttattggatc	60
atacagaaat	agcccaaatac	tggaaatttt	gaattaaaaat	tgtaatcctg	taaaacaagt	120
tttgggggtga	atggattttct	ttaataccaa	taatatTTTT	aattcccacc	acagatggat	180
ttgctgaata	tgctaattgct	gtgaatgaga	aaacaatttt	ggggtaggta	taccacaag	240
taatctgatg	acaaaataaa	ccacagactg	atgtcaaata	gacaaaaaac	tgaaaatatg	300
ctgtgagaaa						310

<210> 43

<211> 401

<212> DNA

<213> Homo sapien

<400> 43

aggtcactta	cacttgtgac	cagtgtgggg	cagagaccta	ccagccgatc	cagtctccca	60
ctttcatgcc	tctgatcatg	tgcccaagcc	aggagtgcc	aaccaaccgc	tcaggagggc	120
ggctgtatct	gcagacacgg	ggctccagat	tcatcaaatt	ccaggagatg	aagatgcaag	180
aacatagtga	tcagggtgcct	gtgggaaata	tccctcgtag	tatcacgggtg	ctggtagaag	240
gagagaacac	aaggattgcc	cagcctggag	accacgtcag	cgtcactggg	attttcttgc	300
caatcctgcg	cactgggttc	cgacagggtg	tacagggttt	actctcagaa	acctacctgg	360
aagcccatcg	gatttgtgaag	atgaacaaga	gtgaggatga	t		401

<210> 44

<211> 401

<212> DNA

<213> Homo sapien

<400> 44

atccctgtaa	gtctattaaa	tgtaaataat	acatacttta	caacttctct	tagtcggccc	60
ttggcagatt	aaatctttgc	aaaattccat	atgtgctatt	gaaaaatgaa	ataaaacctc	120
agatgtctga	attcttattt	caaatacagt	tatataatta	ttttaaatta	caatatacaa	180
tttctgttaa	atacaactgt	taagggattc	tgagaacaat	tataagatta	taataatata	240
tacaaactaa	cttctgaaat	gacatgggtt	gtttccttcc	cacctccta	ccctctcaaa	300
gagtttttgc	atttgcgtgt	cctggttgca	aaaggcaaaa	gaaaatctaa	aaatagtctg	360
tgtgtgtcca	cgacatgctc	gctcctttga	gaatctcaaa	c		401

<210> 45

<211> 401

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(401)

<223> n = A,T,C or G

<400> 45

gtgcctgctg	cctggcagcc	tggccctgcc	gctgcctcag	gaggcgggag	gcatgagtga	60
gctacagtgg	gaacaggctc	aggactatct	caagagattt	tatctctatg	actcagaaac	120
aaaaaatgcc	aacagtttag	aagccaaaact	caaggagatg	caaaaaattc	tttggcctac	180
ctatactgga	atggtaaaact	cccgcgtcat	anaaataatg	caanaagccc	agatgtggag	240
tgccagatgt	tgcaagaatac	tactattttc	caaatagcc	aaaatggact	tccaaagtgg	300
tcacctacag	gatcgatatca	tatactcgag	acttaccgca	tattacagtg	gatcgattag	360
tgtcaaaggc	tttaaacaatg	tggggcaaaag	agatccccct	g		401

<210> 46
 <211> 401
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(401)
 <223> n = A,T,C or G

<400> 46
 gtcagaattg tctttctgaa aggaagcact cggaatcctt ccgaactttc caagtccatc 60
 catgattcan agatactgcc ttctctctct ctgggatttt atgtgtttct gatagtgaat 120
 tgttgatgta tttgctactt tgcttctttt ctctttcaag acttgatcat tttatatgct 180
 gnttggagaa aaaaagaact tttggtagca aggaggtttc aagaaatgat tttggatttt 240
 ctgctgcgga atttctcggc acctacctgt agtatggggc acttggtttg gttgcagagt 300
 aagaaggtgg aagaatgagc tgtacttggg taagcagttg aaaccttttt tgagcaggat 360
 ctgtaaaagc ataattgaat ttgtttcacc cccgtggatt c 401

<210> 47
 <211> 401
 <212> DNA
 <213> Homo sapien

<400> 47
 ggtctgcagc aatgcacttc aaccatacat actgcttcca ctagctaata ccaaagtcag 60
 gttctcagat ccagacaaat ggaggaaaag aacatttatg cttccgtttc agaaagccaa 120
 gtcgtagttt tggcccttcc tttctctaaa gtttattccc aaaaacagggt agcattcctg 180
 attgggcaga gaagaggata ttttcagccc acatctgctg caggatgtc attttctccc 240
 atcttctactg tgactagtaa agatctcacc acttctcttt ggaatttcca actttgcttg 300
 tgattgaatg tcacttcgtg aatttgtatt atgtcagatc acttggcatt gctcttccat 360
 atgcatcaag ttgccaggca ctaaacccaa tgttcatgaa c 401

<210> 48
 <211> 430
 <212> DNA
 <213> Homo sapien

<400> 48
 acataacttg taaacttttt ctgcttgggg gctgtaacag acagaagagt aaagactaca 60
 aggattttct gaagatgctt caatgaaaat catcatttcc tctttagtca tcccaagtct 120
 tggtttgaaa aacttgggca tggacttata cagacctga accaccactg acttatcatt 180
 ggggtggcaga ccttgaaacc aagctctctg tgttacttct gaaagtgcac caattctgat 240
 ttggctaaga acagaagaca aatactggga tcgtgattct gtgttatact ctagccacag 300
 catagcagct tctcgaacgg tttcttccct ttctacattt aaattgtcac tactgagaat 360
 atctatcagt aggtcatgtg acagacctgc cccggggccg gcccgctcga tgcttgccga 420
 atatcatggt 430

<210> 49
 <211> 57
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(57)
 <223> n = A,T,C or G

<400> 49
 ggtattaaca atatcangca ctcattcttc ccctcttatg aaanggatna attttta 57

<210> 50
 <211> 327
 <212> DNA
 <213> Homo sapien
 <220>
 <221> misc_feature
 <222> (1)...(327)
 <223> n = A,T,C or G

<400> 50
 gatggnggtn tccacaagan tnaangtnch tattaantan nncttgtaga nccacttnna 60
 ttaattgnnn tatgnntgnc cttctgggtg ntgtngaagc ttoatatnnt ntttggacat 120
 cattacacgt cttagctctt tnaagnacaa ctttaatgct atatgaattt tgccattttt 180
 gctaacactg gtatgctccn ngcatccacc atnccacntg gaattattta ttncnttcat 240
 attaattttt tgtttaccaa atctnacttg acccgaacga aactttctgn gtattttang 300
 gcccncctat tcttactttt caagcct 327

<210> 51
 <211> 236
 <212> DNA
 <213> Homo sapien

<400> 51
 cgtctcgaag aagcgctgca ggccgatgat ggactgcacg tctgccttgt cctcagttaa 60
 cttgttgaat tgcttgaaca tgcgggccac atcctgggca aactcctgtg gggagctgta 120
 gggaggtgac aacttctcct ggaggcgggc acggatcagg gtcagatcca gggtgccacc 180
 gggctggtcc agggagaagg tggagtcgta gccagacctg cccggggcggc cgctcg 236

<210> 52
 <211> 291
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(291)
 <223> n = A,T,C or G

<400> 52
 ctcacatcct ggggccggct gtagagctgc accatggtgc tgagcgcccc ctccagctcc 60
 ttgtagatgt aaaggacggc gaaggagctg tagtctgtgt ccacgatgcg cagctccagg 120
 tagcccaagg ccgggactct gaagttgtcc ctggagccc accttcangt actcgggcat 180
 ccacctggtt acagccnttc gncctcggna actccatntg gactttacag gccgcctcc 240
 tctgtgggcc tgatggncct tgcaggacat nggaacacgg gagctcnctt t 291

<210> 53
 <211> 95
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(95)
 <223> n = A,T,C or G

<400> 53
 gtctgtgcag tttctgacac ttgttgttga acatggntaa atacaatggg tategctgan 60
 cactaagttg tanaanttaa caaatgtgct gnttg 95

<210> 54
 <211> 66
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(66)
 <223> n = A,T,C or G

<400> 54
 cctnaatnat ntnaatggta tcaatnnccc tgaangangg gancggngga agccggnttt 60
 gtccgg 66

<210> 55
 <211> 265
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(265)
 <223> n = A,T,C or G

<400> 55
 atctttcttc tcaagtgcctt ggcctgtgtg agtctatctg gtaacactgg agctgactcc 60
 ctgggaagag aggccaaatg ttacaatgaa cttaatggat gcaccaagat atatgaccct 120
 gtctgtggga ctgatggaaa tacttatccc aatgaatgcc gtgttatgtt tttgaaaatc 180
 ggaaacgcca gacttctatc ctcattcaaa aatctgggcc ttctgaaaa ccagggtttt 240
 naaaatccca ttenggtcnc cggcg 265

<210> 56
 <211> 420
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(420)
 <223> n = A,T,C or G

<400> 56
 gagcgccgc ccgggcaggt cctcgcgggtg acctgatggg atttcaaaac cttggttctc 60
 agcaaggccc agatttttga atgangatag aagtctggcg tttccgattt tcaaaacata 120
 acaogcattc attgggataa gtatttccat cagtcccaca gacnggggtca tatatcttgg 180
 gtgcatccat taagtctntt tgtaacatt tgggcctctc tttcccangg gaattcagct 240
 cccagttgtt taccaanatt naactccacc ggggccaaag gcncttgaaa aaaaaanaa 300
 ttccttgttt accttccttg ggcttnaagt tctggcgtec aaaagttcaa tttgaaaact 360
 gcaccgcact taccacgtct cttcnagaan cctggggaca cctcggccgc gaccacgcta 420

<210> 57
 <211> 170
 <212> DNA

<213> Homo sapien

<400> 57

gaagcggagt tgcagcgctt ggtggccgcc gagcagcaga aggcgcagtt tactgcacag	60
gtgcatcact tcatggagtt atgttgggat aaatgtgtgg agaagccagg gaatcgccta	120
gactctcgca ctgaaaattg tctctccaga cctcgccgcg gaccacgcta	170

<210> 58

<211> 193

<212> DNA

<213> Homo sapien

<400> 58

atcttcagtg cgagagtcta ggcgattccc tggcttctcc acacatttat cccaacataa	60
ctccatgaag tgatgcacct gtgcagtaaa ctgcgccttc tgctgctcgg cggccaccag	120
gcgctgcaac tccgcttcat cggcttcgcc cagctccgcc attgttcgcc acctgcccgg	180
gcggccgctc gaa	193

<210> 59

<211> 229

<212> DNA

<213> Homo sapien

<400> 59

cgcaactctc gagcatttat atacaatagc aaatcatcca gtgtgttgta cagtctataa	60
tactccaaca gtctcccatc tgtattcaat ggcgccaccc aatacagtcc tttgtttgga	120
tgctggggag agtaatccct accccaaagca ccatatagat aagaaaaccc tctccagttg	180
agctgaacca cagacggttt gctgatacct gcccgggcgg ccgctcgaa	229

<210> 60

<211> 340

<212> DNA

<213> Homo sapien

<400> 60

tgcagcggcc gcccgggcag gtcctctaaa gatcaaaaca cccctgtcgt ccaccctcct	60
cccactccag ggaagctgtg gtcattggtg tgtggtgaac atcagcaaac cgtctgtggt	120
tcagctcaac tggagagggg tttcttatct atatggtgct tggggtaggg attactctcc	180
ccagcatcca aacaaaggac tgtattgggt ggcgccattg aatacagatg ggaaactgtt	240
ggagtattat aaactggtac aacacactgg atgatttgct attgtatata aatgctcgag	300
aattgcggat cacctatgga cctcgccgcg gaccacgctg	340

<210> 61

<211> 179

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(179)

<223> n = A,T,C or G

<400> 61

tttttgtgac ggacgnttgg agtacatgtc ccaggatcac atccagcagc tagagtggct	60
gggacaagct ggcgngggcc aagcaactgtt gaaacnatag gggctctgggn gnactcgggt	120
tnaagtgggt ggtccgantt ttnataacct tgtcngaacc nancatctcg gttgncang	179

<210> 62

<211> 78
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(78)
 <223> n = A,T,C or G

<400> 62
 agggcggttcg taacgggaat gccgaagcgt gggaaaaagg gagcggtggc nggaagacgg 60
 ggatgagctt angacaga 78

<210> 63
 <211> 410
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(410)
 <223> n = A,T,C or G

<400> 63
 ccagttact tggggaggct gaggcaggga gaatcctttg aaccggngg gtgggaggtt 60
 gcagtga gcc cgagatagca ccattgcact tccancatgg ggtggacaga gtgagactct 120
 atctcaaaaa aaaagaaaag aaaaggaaa agattagatt aagattaagt acctacttcc 180
 tntcccattt caagtcctga aaatagagga tcagaaatgt tgagggaattc tttaggatag 240
 aaaggagat gggattttac ttatggggaa agaccgcaa taaagactgn aacttaacca 300
 cattcccaa gtgnaagggtg ttacccaaga agtaggaacc cttttggctn ttaccttacc 360
 ttcngaaaa aaacttattn cttaaaatgg aaacccttaa agcccgggca 410

<210> 64
 <211> 199
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(199)
 <223> n = A,T,C or G

<400> 64
 cttgttctca aaaagggtcaa agggagcccg acgaggaata aatagcaatg ccctgaattc 60
 caactgacct tctacagaaa agtgcttgac tgccaagtgg tcttcccagt cattagttag 120
 gctctttag aattctccat actcctcttg gngangnca tnagggttn nggcccaaat 180
 aggntgggcc tngttaagt 199

<210> 65
 <211> 125
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(125)
 <223> n = A,T,C or G

<400> 65
 agcggtagacag ttctgtcctg gcatcatcat tcattgtagt atggtcaata ggtgccatga 60
 aactcagtag cttgctaagg acatgaaacc gaagtttcct gcctttgctg gcctngtngn 120
 gggta 125

<210> 66
 <211> 204
 <212> DNA
 <213> Homo sapien

<400> 66
 attcagaatt ctggcatcgg tattttotata aagtccatca gttagagcag gagcaggccc 60
 ggagggacgc cctgaagcag cgggcggaac agagcatctc tgaagagccc ggctgggagg 120
 aggaggaaga ggagctcatg ggcatttcac ccatatctcc aaaagaggca aaggttcctg 180
 tggacctcgg ccgcgaccac gcta 204

<210> 67
 <211> 383
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(383)
 <223> n = A,T,C or G

<400> 67
 tcagggcctc caggcagcca gttttgcagg anattcagca cctagngtct tcctgcctna 60
 cgctcccaag aacctgctcc tgcaggggga acatcagaac tcgtccttga tgtcaaaatg 120
 gggctggtct tnaggcttga agtccaggtt agggctgcca tcctcattga gaattctccg 180
 ggcagtgtan ccgacgatgg ggtatttggc tttgtacact ttgggtgaaaa cctnatccag 240
 ggctccagtc tccttggccg tganaccctg antgtcatgg gtgaggtctg caggatccaa 300
 ggacatcttg gctaccctc tagtggagtc cttcccctg aaggcattgt aaggggctcc 360
 tcgtccataa aactcctttt cgg 383

<210> 68
 <211> 99
 <212> DNA
 <213> Homo sapien

<400> 68
 tcacatctcc tttttttttt aactttttca aattttttgt ttaaatagaa ggctaaaggg 60
 ttagatttaa gtttctgcta cattgaccct atttaccta 99

<210> 69
 <211> 37
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(37)
 <223> n = A,T,C or G

<400> 69
 gagaaggacn tacggncctg ntantanang aatctcc 37

<210> 70

<211> 222
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(222)
 <223> n = A,T,C or G

<400> 70
 gtgggtcatt ttgtctgtca ccagcaacgt tgccacgacg aacatccttg acagacacat 60
 tcttgacatt gaagcccaca ttgtccccag gaagagcttc actcaaagct tcatggcgca 120
 tttcgacaga ttttacttcc gttgtaacgt tgactggagc aaaggtgacc accataccgg 180
 gtttgagaac acccantcac ctgccccggg cggccgctcg aa 222

<210> 71
 <211> 428
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(428)
 <223> n = A,T,C or G

<400> 71
 caggagtatt ttgtagaaaa gccagaagag cattagtaga tgtatggaaa tatacggtag 60
 ggcacacgct gacagtactt ttcccaagcc acgccgtatt tcttcttaca gtggtactcg 120
 tcacgagctt ctcggtggac aagcaacatg gtgaaataaa ttatgtagaa ataaggcaga 180
 atgtggttaa aaccacatgg gagggaccac gccaaaggcca tgatgagatc acccaagtaa 240
 ttgggggtggc gaacaaaagcc ccaccatcca gaaactagaa naatttttcc cgttgaaata 300
 tgaatggntt ttaaattgtc aagcttttga tcaactgggaa ttttcccgaa tgcctttttc 360
 tganaattgc accttnggaa gantccttac cccaagnttc agaccattat ttnaaaagcn 420
 ttggaact 428

<210> 72
 <211> 264
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(264)
 <223> n = A,T,C or G

<400> 72
 gaataaagag cttactggaa tccagcaggg ttttctgccc aaggatttgc aagctgaagc 60
 tctctgcaaa cttgatagga gagtaaaaag ccacaataga gcagtttatg aagatcttgg 120
 aggagattga cacacttgat cctgccagaa aatttcaaag acagtagatt gaaaaggaaa 180
 ggcttttgta aaaaaaggtt caggcattcc tagccgantg tgacacagtg gagcanaaca 240
 tctgcangag actgancggc tgca 264

<210> 73
 <211> 442
 <212> DNA
 <213> Homo sapien

<220>

<221> misc_feature
 <222> (1)...(442)
 <223> n = A,T,C or G

<400> 73
 ggcgaaatccg gcgggtatca gagccatcag aaccgccacc atgacggtgg gcaagagcag 60
 caagatgctg cagcatattg attacaggat gaggtgcatc ctgcaggacg gccggatctt 120
 cattggcacc ttcaaggctt ttgacaagca catgaatttg atcctctgtg actgtgatga 180
 gttcagaaaag atcaagccaa agaacttcaa acaagcagaa agggaagaga agcgagtctt 240
 cggctctggng ctgctgccaa gggagaatct ggtctcaatg acngtagaag gaccttcttc 300
 caaagatact ggnattgctc gagttccact tgctggaact tcccggggcc caaggatcgc 360
 aaggcttctg gcaaaagaaa tccanacttn ggccggggacc acctaanca attcacacac 420
 tggcggccgt actagtggat cc 442

<210> 74
 <211> 337
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(337)
 <223> n = A,T,C or G

<400> 74
 ggtagcagcg tctccagagc ctgatctggg gtcccagata occaggcagc agcagccctg 60
 gaggtaaaagg gcaagctccc caatgtgagg ggagacccca ttcttggtca gccaggcttt 120
 cagaggagat agcaggctga gggagccaac gaagaagaga ctgccancag gggaggact 180
 gtcccgccaa ggacagaact gattcagggg ggtcaatgct cctctagaga agagccacac 240
 agaactgggg ggtccaggaa ccatgaanct tggctgtggt ctaaggagcc aggaatctgg 300
 acagtgttct gggtcatacc aggattctgg aattgta 337

<210> 75
 <211> 588
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(588)
 <223> n = A,T,C or G

<400> 75
 catgatgagt tctgagctac ggaggaaccc tcatttcctc aaaagtaatt tattttttaca 60
 gcttctgggt tcacatgaaa ttgtttgcgc taotgagact gttactacaa actttttaag 120
 acatgaaaag gcgtaatgaa aaccatcccg tccccattcc tctctctctc tgagggactg 180
 gagggaagcc gtgcttctga ggaacaactc taattagtac acttgtgttt gtagatttac 240
 actttgtatt atgtattaac atggcgtgtt tatttttgta tttttctctg gttgggagta 300
 tgatatgaag gatcaagatc ctcaactcac acatgtagac aaacattagc tctttactct 360
 ttctcaaccc cttttatgat ttttaataatt ctacttaac taattttgta agcctgagat 420
 caataagaaa tggttcaggag agangaaaga aaaaaatat atgttcccca tttatattta 480
 gagagagacc cttantcttg cctgcaaaaa gtccaccttt catagtagta ngggccacat 540
 attacattca gttgctatag gncagcactg aactgcatta cctgggca 588

<210> 76
 <211> 196
 <212> DNA
 <213> Homo sapien

<400> 76
 gcggtatcac agcctggccc ccatgtacta tcgggggggcc caggctgccca tcgtgggtcta 60
 tgacatcacc aacacagata catttgcacg ggccaagaac tgggtgaagg agctacagag 120
 gcaggccagc cccaacatcg tcattgcact cgcgggtaac aaggcagacc tggacctgcc 180
 cgggcgggccg ctcgaa 196

<210> 77
 <211> 458
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(458)
 <223> n = A,T,C or G

<400> 77
 agtagagatg gggtttccact gtgttaacca ggatgggtctt gatctcctgg cctcgtgatc 60
 tgcccgccctc ggcctcccaa agtggttgga ttacaggcgt gaaccaccgc acccgccag 120
 aaatgttagt ttttccctat tctctctcct ttttcctatt atatacttgg tcaaccagac 180
 agccatccta cccanaatg gtaatgcctc ttcattcctc atatgaggga ataaaagaga 240
 aaaaagcttt tggaaaacat ccacttatct aatcatccca aatatgtaat caaaagtata 300
 caactcatgt gaagaatata ctggtaaaat gttantatag gccaaaggat cttgaattcc 360
 tatatagaaa gctggtaaat gcccttttgg ctggaaccgc catcttcenn taattcnccc 420
 aaaatgacca aacacaaagg gnaagangan aagccccc 458

<210> 78
 <211> 464
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(464)
 <223> n = A,T,C or G

<400> 78
 tccgcaaatt tcctgccggc aagggtcccag catttgaggg tgatgatgga ttctgtgtgt 60
 ttgagagcaa cgccattgcc tactatgtga gcaatgagga gctgcgggga agtactccag 120
 aggcagcagc ccagggtggg cagtgggtga gctttgctga ttccgatata gtgccccag 180
 ccagtacctg ggtgttcccc accttgggca tcatgcacca caacaaacag gccactgaga 240
 atgcaaagga ggaagtgagg cgaattctgg ggctgctgga tgcttacttg aagacgagga 300
 cttttctggg gggcgaacga gtgacattgg ctgacatcac agttgtctgc accctgttgt 360
 ggctctataa gcaggntcta gaaccttctt ttcgcangac cttcggccgg accacgctta 420
 acccaaatc cacacacttg cnggccgtac taanggaatc ccac 464

<210> 79
 <211> 380
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(380)
 <223> n = A,T,C or G

<400> 79

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ctgtatgacc agttttttcca tctccttcac ttctaccttg atcagctcga agtccagttc      60
agtgtgaaga atggtatcct tctccatgat gtcaattcgg acagttagggt ttaacagttt      120
cttttcatac acactaatta attggacata ttccctcact ttanaaaagt cttttctcaaa      180
cttctganaa aagaacatga actgtgaatt ccaagcgttc ccactctgtc cacgggaaaa      240
ggtggtgtct ggcagggaaa cagaacactg gcaggtccac ggtcatccac ggagccggtg      300
aaattgggaa aacaactggg acacagaacc tccgctgcct aagctgcggn tgggagcttg      360
gaacccgacc tggaaactgga

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<210> 80
<211> 360
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(360)
<223> n = A,T,C or G

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<400> 80
tcgagcggcc gcccgggcag gtcctcagag agotgtttgt tncgcttctt caaaaactcc      60
tattctccac ttctgctaaa ggactggatg acatcaattg tgatagcaat atttgtgggt      120
gttctgtcan ncancatcgc actcctgaac aaagtagatg ttggattgga tcagtctctt      180
tccaccaga tgactcctan atggtggatn atttcaaate catcantcag tacatgcatg      240
cgnggtccgc ctgtgtncct tgtcctgcag gangggcnct actacacttc ttccnagggg      300
canaacatgg tgtgcngcgg ccatgggctg gcaacantga ttcnctgctg caccanatn      360

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<210> 81
<211> 440
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(440)
<223> n = A,T,C or G

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<400> 81
acgtggtccg gcgagtctga cctgcagata tgaactcctt gggaaacctt cattctgcct      60
cagacatact gggggcaa at ggctttaaaa gtctggctca gggagccaag attacagaaa      120
nccgttgagt cnccatacat ggacactgac aaaggaaactg aagatatoca aacaagccct      180
cctggtcccg ngcctgcata aagatcgga ncggaacggt accngacgtc tgtggtcagg      240
ggttgtggaa aatttgaaaa aaccagtcct gccacattg acagggaagc ctcaacggaa      300
attgaacaga tngtcttatc accagtctcc cctcctggat cntgtctcgg ctenggggan      360
tcagtgatca gtcctttcag gtggaagaag caaagaagat caacaanaag cngatcctct      420
cacctgntac cagcatatgg

```

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<210> 82
<211> 264
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(264)
<223> n = A,T,C or G

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<400> 82
agcgtggtcg cggccgangt cctgacattc ctgccttctt atattaatta tacnaataaa      60

```

acaaaatagt gttgaagtgt tggagcggcg aaaatttttg gggggtggta tggacagaga	120
atgggcgatn ttctcanggc tgcttcaagt gggattgggg cngcgtggga tcatncagt	180
gganagattn cnctgaccgg antctnttgg tanggatnat ctgtgtggga tgtgcaagag	240
ncattcgtct cctgaatgan tgg	264

<210> 83
 <211> 410
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(410)
 <223> n = A,T,C or G

<400> 83	
ancgtggtcg cggccgangt ccacagttgt gggagagcca gccattgtgg gggcagctcc	60
acaggtaaga ctctgtctct gagcagcgca catcatccag gacaatgggt cctgagccct	120
gaccaaaccg ggcatttcct ggggctgaca tggcccagcc acagcccant tgctgcaga	180
cgaaattggc atcattgggtg tcccagtant catcacacac ggtgccccag gaacctccgg	240
tatangaact ccaactcgcc tcnanacctg tcgcctccat tccncagcct cagggggcaa	300
actgggattc agatccttct gtgggtacag gtgggtgat cctgacaggc caactttctg	360
gcctgagtgt tgactgancg tgggcagacc tgcccgggcg gccgctcgaa	410

<210> 84
 <211> 320
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(320)
 <223> n = A,T,C or G

<400> 84	
tcgaacggcc gcccgggcag gtctgcccc a ggtgtatcca tttgccgccg atctctatca	60
naaggagctg gctaccctgc nncgacgaan tcctgaanat aatctcacc ncccagatct	120
ctctgtcgca atggagatgt cgtcatcggt ggnccatgat acagggcatt ggactcagag	180
anangtnanc acagtgtnga agcgattgan nnagttcagt tgctgtgtctt acccgatntt	240
ggaaggaagg aaaacgtgtt angacgtatc tcgatgnant tgaccaaanc tgaangctnc	300
agggggcatt gcaaaganan	320

<210> 85
 <211> 218
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(218)
 <223> n = A,T,C or G

<400> 85	
tcgagcggcc gcccgggcag gtctgctgcc cgtgctgggt ccattgcccc atgtgaagtc	60
actgtgccag cccagaacac tggctctcggg cccgagaaga ctctttctc caggctntan	120
gtatcaccac taaaatctcc aggggcacca tnganatcct ggggtgccgc aatgttgcca	180
atgtctgtcc gcnnattggc taccctaact ttgcatca	218

<210> 86
 <211> 283
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(283)
 <223> n = A,T,C or G

<400> 86
 tcgacttctt gtgaagggtt tgganaaata tgtatcagtt cgtttttattt ggggtattcaa 60
 taatatcctt ggtgataatg ctgactccat ggcttctgac cccaaaaatt gaccctgctg 120
 ccactgggtg tagccctgag attgattttt gtagccacga ttgtttcctc gtcctctgaa 180
 gtncctgggtg tanttcctc tgtngggcat tccctctgt tgtanttccc tctgtttgan 240
 taactaccac ggccaggaaa aacaggggca cgaaggatat gat 283

<210> 87
 <211> 179
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(179)
 <223> n = A,T,C or G

<400> 87
 agcgtgggtc cggccgatgt ctttctgtgt aagtgcataa cactccacat acttgacatc 60
 cttcangtca cgggccagct nttcagcant ctctggagtg ataggctact gtntgttctn 120
 ggcaagtgtc tcaanaatac aggggtctnc tctgagatga ntttcagtc cgaaccctc 179

<210> 88
 <211> 512
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(512)
 <223> n = A,T,C or G

<400> 88
 tcgagcggcc gcccgggcag gtcctanacan agaatcacca aatttatgga gagttaacag 60
 gggtttaaca ggaangaagt gccttttagta agttctcaag ccagangctg gaggcagcag 120
 ctaaatacaga ggacaggatc ctgagtgaat gtgagccatt cgggggtggca tgtcactcca 180
 ggaataagca caacttanaa acaaatgatt tctgtangata gcacagtgc attggtgcac 240
 ttgtgaacct gaggccactg tgtcaaactg tgcactgggt gtgaatagg aganccaaaa 300
 attatgtcct actgggtaat gagctttcaa tgggctcgat cctctcaacn tgaaagctct 360
 gtagagcagc tcagaaccac aaccactccc aacattgacc cttctggggg tactgtctgt 420
 ggcacccaca ggaaggagct ggagatcccc attaggactg tccacccaca cttgaagcca 480
 caaaaactgca cctcggccgc gaccaccgct ta 512

<210> 89
 <211> 358
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(358)
 <223> n = A,T,C or G

<400> 89
 tcgagcgggc cgcccgggca ggtctgccag tccccatccc agacattctt tgcattctaag 60
 ctgangtctg aactgagtg ggtgggctgg tgtttccatc ctcaaacctc cagtgagccg 120
 ggtgtggccg tggcctgcgt ctctctggcg gttagtgatg ttggcatcat ccaccttttt 180
 caaaacaaaa gcaatggact gaagaanaat ccnccctgt ntccaccag tccatggttt 240
 ttaataaaaag ggttatnaa gttgancaag ncatcaccac acacaancct aagaacnttt 300
 ttcactnntc cccaaaacaa acccncaccc tgggaactcc gggcgcgaaac cagccta 358

<210> 90
 <211> 250
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(250)
 <223> n = A,T,C or G

<400> 90
 cgagcggccg cccgggcagg tctggatggg gagacggact ggaactgcgg cttcccgtgg 60
 cctgcacgca caaggtctcc caccggccgc gacctcttc agattcgatc gtatgtgtac 120
 gcacnaagag ccaaatattg acattcaca cttcgtggga atnttaccac anaagactgc 180
 gacccccga tcaggcgana gcctgagcat agaagaacac cgctgtgggc ttggcactgt 240
 gggncccatc 250

<210> 91
 <211> 133
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(133)
 <223> n = A,T,C or G

<400> 91
 tcgagcggcc gnccgggcag gtcccgggtg gttgtttgcc gaaatgggca agttcntnaa 60
 ncctgggaag gtggtgcntg tncgtgctgg acgtactcc ggacgcnaag ctgtcntcgt 120
 gangancatt gat 133

<210> 92
 <211> 232
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(232)
 <223> n = A,T,C or G

<400> 92
 agcgtggtcg cggccgangt ctgtcacttt gcgggggtag cggtaattc cagccaccag 60
 agcatggctg taggggcgat ctgaggtgcc atcatcaatg ttcttcacga tgacaagctt 120

tgcggtccgga gtagcggtcca gccaggacaa gcaccacctt cccacgtntt cangaactng	180
cccatcttcgg cataaccacc cgggacctgc ccgggcggnc gctcgaaaag cc	232

<210> 93
 <211> 480
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(480)
 <223> n = A,T,C or G

<400> 93	
agcgtgggtc gcggccgang tctgtangct caccggccag agaagaccac tgtgagcatt	60
ttgccgtata tcttgccttg ccatttggtc acttttttaa ctaaaatagg aacatccgac	120
acacaccgtt tgcacgtctt tctcccttga tattttaagc attttcccat gtcgtgagtt	180
tctcagaaac atgtttttta caattgtact atttagtcat ngtcatttta ctataattta	240
tctgaccatt tccctactgt taaaatactt aagacgggtt ctgatttttc cactatttta	300
ataatgctgt gatgaatata tttaaaatct tctgatttct tacttttttc ccccttagat	360
gcctggaagt ggtattttga ggtgaaagag tttgttcatt ttgaanatat ttctgtctct	420
ctctcgacct gatgtgtana cgctcacttc cagtttagcag aaccacctta gtttgtgtct	480

<210> 94
 <211> 472
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(472)
 <223> n = A,T,C or G

<400> 94	
tcgagcggn c gcccgggcag ggtctgatgt cantcacaac ttgaagggat gccaatgatg	60
taccaatccn atgtgaaatc tctcctctta tctcctatgc tgganaaggg attacaaagt	120
tatgtggcng ataannaatt ccatgcacct ctantcatcg atgagaatgg agttcatgan	180
ctggtgaaen atggtatctg aacccgatac cangttttgt ttgccacgat angantagct	240
tttatttttg atagaccaac tgtgaacctt ccacacgtct tggacnactg anntctaact	300
atccncaggg ttttattttg cttgttgaac tottncagct nttgcaaact tcccaagatc	360
canatgactg antttcagat agcattttta tgattcccan ctcatgaag gtcttatnta	420
tntcnttttt tccaagccaa ggagaccatt ggacctcggc cgcgaccacc tn	472

<210> 95
 <211> 309
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(309)
 <223> n = A,T,C or G

<400> 95	
tcgagcggcc gcccgggcag agtgtcgagc cagcgtcgcc gcgatggtgt tgttggagag	60
cgagcagttc ctgacggaac tgaccagact tttccanaag tgccggacgt cgggcancgt	120
ctatatcacc ttgaagaant atgacggctg aaccaaacc attccaaaga aangtactgt	180
gganggcttt gancccgag acaacnagt tctgttaaga actaccgatn ggaaanaana	240

anatcagcac tgtgggtgag ctccnaggga agttaataan tttcggatgg gcttattcna 300
acctcctta 309

<210> 96
<211> 371
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(371)
<223> n = A,T,C or G

<400> 96
tcgagcggcc gcccgggcag gtccaccact cacctactcc ccgtctctat agatttgcct 60
gtttctgggca gttctcagca atggaatcct actgtgtatc tttttgtgac tggttcttta 120
actcagcatc acattttcaa gggtcatcca tgctgcagcc tggctccgta ctggtgacag 180
tacttcattt ctctctccct tttgttcaga ccaaggctct cctctgtccc caaggctaaa 240
gtgcagttgg tgtgatcatg gctcactgca gcctcaaact cctggactca aacagtcctc 300
ccatctcagc ctcccaaagt gctgatntta taagttgcaa gccctgcacc cagcctgtat 360
ctccagtttg t 371

<210> 97
<211> 430
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(430)
<223> n = A,T,C or G

<400> 97
tcganccggcc gcccgggcag gtttnttttn tttntttttt nnnngntagt atttaaagan 60
atttattaaa tcatcttatc accaaaatgg aaacatnttc caactagaaa catgcnacca 120
tcatcttccc cagtcagtc ncaangtcca atatttntct tgcctctgca gataaaaagt 180
tcnnattttt ataccactc ttactcccc ccaaaatttt aattcngtcc tncctaaaa 240
ttncnccggg taacaantta ccaaaatggc naaccaatta ttttaanaaa aagttgcncn 300
ttnaaaangg aaactttntg gcaanttanc ctcttttccc ttcccacccc ccantttaag 360
gggaaaacaa tggcactttg ctcttgcttn aaccctaaat tgtcttccaa aaactattaa 420
aatgttnaa 430

<210> 98
<211> 307
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(307)
<223> n = A,T,C or G

<400> 98
tcnaacggcc gccnngcnn gtctngcngc acctgtgcct canccgtcga tacctgggtcg 60
attgggacan ggaanacaat ntggttttca gggaggccac anatttggag aaacggatga 120
attctccttt attccgaant cagctccttg gtctccgtag anggtgatct tgaaattctc 180
ctgttttgaa aactttcttg aanaaacctt acctgctggg tgtatttggg ctcccactcg 240
gacaagtact cgttatccnn ggtactctta atgtgccac gtnaactccc cgggntggca 300

actggaa

307

<210> 99
 <211> 207
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(207)
 <223> n = A,T,C or G

<400> 99
 gtcnnggacc gatgttgca aganntttct tgggccanta gggtcnaaaa aatgataanc 60
 naggtntanc acgtgaagat ntntatanag tcttantnaa aacncntaga tctgnatgac 120
 gataantcga anacnggggg aggggntgag gngaggtggn gtganggaag anntgttgat 180
 aaaagannna gntgataaga annagac 207

<210> 100
 <211> 200
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(200)
 <223> n = A,T,C or G

<400> 100
 acntnnacta gaantaacag ncntttctang aacactacca tctgtnttca catgaaatgc 60
 cacacacata naaactccaa catcaatttc attgcacaga ctgactgtaa ttaattttgt 120
 cacaggaatc tatggactga atctaatacgc nccccaaatg ttgttngttt gcaatntcaa 180
 acatnnttat tccancagat 200

<210> 101
 <211> 51
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(51)
 <223> n = A,T,C or G

<400> 101
 tcgagcggcc gcccgggcag gtctgaccag tgganaaatg cccagttatt g 51

<210> 102
 <211> 385
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(385)
 <223> n = A,T,C or G

<400> 102

```

aacgtgggtcg cggccgaagt ccatgggtgct gggattaatc cactgtgacn gtgactctga 60
gttgagttgt ttttcaatct tctccaagcc tgtggactca tcctccacat ccttgggtag 120
taggatgaac atgetgaaga tgctnatttt gaaaaggaac tctatgaatc ttacaattga 180
atactgtcaa tgtttcccca tnacagaacg tggnccecca aggttccatc atctgactg 240
ggtttgggtg ttctgtcttg gttgactctt gaaaaggac atttcttttt gttttcttga 300
attcanggae attttcttca tccactttgc ccacaaaagt taggcagcat ttaaccccca 360
anggattttg ggtctgggtc ctccc 385

```

```

<210> 103
<211> 189
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(189)
<223> n = A,T,C or G

```

```

<400> 103
agcgtgggtcg cggccgaagt ctgcagcctg ggactgaccg ggaagctctg attatttacc 60
caccacaggt angttgtgtt ctgaatctca agttcacagg ttaaggctac agcatcctca 120
tcctccacgg ggttggantt gttgctgggtg atgaanggtt tgggggtggct ctgcataact 180
gttgatctc 189

```

```

<210> 104
<211> 181
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(181)
<223> n = A,T,C or G

```

```

<400> 104
tcgagcggcc gcccgggcag gtccaggtct ccaccaangc accaccgtgg gaagctggta 60
attgatgcc accttgaagc cnntggggca ccatccncca actggatgct gcgcttgggtt 120
ttgatgggtg caatggcaca ttgactcttt tgggaaccac ttcaccacgg tacaacaggc 180
a 181

```

```

<210> 105
<211> 327
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(327)
<223> n = A,T,C or G

```

```

<400> 105
tcgagcggcc gcccgggcag gtcttctgtg gagtctgcgt gggcatcgtg ggcagtgggg 60
ctgccctggc cgatgctcan aaccccagcc tctttgtaaa gattctcatc gtgganatct 120
ttggcagcgc cattggcctc tttgggggtc tgcgcgaat tcttcanacc tccanaatga 180
anatgggtga ctanataata tgtgtgggtg gggccgtgcc tcacttttat ttattgctgg 240
tttcctggg acagaactcg ggcgcgaaca cgcttanccg aattccaaca cactggcggg 300
cgttactagt ggatccgagc tcggtac 327

```

<210> 106
 <211> 268
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(268)
 <223> n = A,T,C or G

<400> 106
 agcgtggtcg cggccgangt ctggcgtgtg ccacatcggt cccacctcgc tttacaaaac 60
 agtcctgaac ttinatctaat aaaattattg tacacnacat ttacattaga aaaaganagc 120
 tgggtgtang aaaccgggcc tgggtgttccc tttâagcgaa ngtggtcca cagttggggc 180
 atcgtcgctt cctcnaagca aaaacgcaa tgaacccna agggggaaaa aggaatgaag 240
 gaactgnccn gggangnccg ctccgaaa 268

<210> 107
 <211> 353
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(353)
 <223> n = A,T,C or G

<400> 107
 tcgagcggcc gcccgggcag gtggccaggc catgttatgg gatctcaacg aaggcaaaca 60
 cctttacacn ctagatggtg gggacatcat caacgccctg tgcttcagcc ctaaccgcta 120
 ctggctgtgt gctgccgcag gccccagcat caagatctgg gatttanagg gaaagatcnt 180
 tgtnnatgaa ctgaancnta aattatcagt tccannacca ngcaaaaacc acccngtgca 240
 ctccctggcc tggctgtgctg atgggacctc gggcgcgaa acgctnancc caattccanc 300
 acactgggcg gncgttacta ntggatccga actcnggtac caancttggc gtt 353

<210> 108
 <211> 360
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(360)
 <223> n = A,T,C or G

<400> 108
 agcgtggtcg cggccgaagt cctggcctca catgaccctg ctccagcaac ttgaacagga 60
 naagcagcag ctacatcctt aagggtccgga aagtttagatg aagatttgga tctgcattg 120
 ncctgcctcc cacctatctc tccnaatta taaacagcct ccttggggaag cagcagaatt 180
 taaaaactct ccnctgccc tnttgaaacta cacaccnacc gggaaaacct tttcanaat 240
 ggcacaaaaa tncnaggga tgcatctcca tgaangaana aactgggtta cccaaaatta 300
 ttgggttggg gaaatccngg gggggttttn aaaaaagggc aanccnccaa anaaaaaac 360

<210> 109
 <211> 101
 <212> DNA
 <213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(101)

<223> n = A,T,C or G

<400> 109

atcgtggtcn	cggccgaagt	cctgtgtcct	ggatgggccc	tgtgcancga	atccgttggc	60
gactcctaac	taccaaaaa	angactctcg	gaagaaattt	c		101

<210> 110

<211> 300

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(300)

<223> n = A,T,C or G

<400> 110

ccanggaaac	ccagagtcac	atgagatagg	gtggctttcg	ggacaggggg	tcagangaat	60
ggtacatgga	tctcagcccc	tgatggacac	ggaacagggtg	tggtcagaac	tcccangatt	120
ctgcatccan	gatccagtct	ctatagaagt	tatggatcat	tccttcattt	cattcccccc	180
ttcatgaaaa	aactttctgaa	caagcctttt	ttctcacttt	ggggccctgt	ttggcncaag	240
gtnttnantt	ggggaaaaaa	aaacaaatcc	nttcctnttan	ccctccgtgg	ggaatgacct	300

<210> 111

<211> 366

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(366)

<223> n = A,T,C or G

<400> 111

cgagcggccg	cccgggcagg	tccttgtgtt	gccatctgtt	ancattgatt	tctggaatgg	60
aacanccttc	tcaaagtttg	gtcttgctan	tcatgaagtc	atgtcagtg	cttaagtcac	120
tgctgtcac	ttccttacct	agggaatata	ctgcataagt	ttctgaacac	ctgttttcan	180
tattcactgt	tcctctcctg	cccaaaattg	gaagggacct	catttaaaaa	tcaaatttga	240
atcctgaaan	aaaaacngga	aatntttctc	ttggaatttg	gaatagaatt	attcanttga	300
ataacatgtt	ttttccctt	gccttgctct	tcncaanaac	atctggacct	cggccgcgac	360
acctta						366

<210> 112

<211> 405

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(405)

<223> n = A,T,C or G

<400> 112

ctgactncta	aacttcta	tcnatcaana	taactactct	ccttccgtct	tncagagtgt	60
tcacaataaa	tctgtgaatc	tggcatacac	agttgctgga	aaattgttct	tcctccacna	120

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aaaggtcaat tgttcncnc atgaaanaag ataaattggt catccatcac tncatgaacca 180
tccaaaacgc cggcggaatt attnccccgt tattatgggg aacggaattt tnaataaatt 240
tgggaangaa tggggccttt attgttttgt tttccccctt tcttggcatt gattgggccg 300
caatgggccc cctcgctcan aanntgcccc ggggcccggc gctccaaaac cgaaattccc 360
anccacactt ggcgggccgt tactanttgg atccgaactc ggta 405

```

```

<210> 113
<211> 401
<212> DNA
<213> Homo sapien

```

```

<400> 113
ggatagaaga gtatatgggt ttggcaccac ggggtggata ggcaaaacat ttggttgata 60
aggcgagat tctgaactaa cttgtaaggc ttgtctgggt ttaggacagg taaaatgggg 120
gaatggtaag gagagtttat aggttttagg agcccatgct gtagcaggca agtgataaca 180
ggctttaatc ctttcaaagc atgctgtggg atgagatatt ggcatttgag cggggtaagg 240
gtgattaggt tttaatgaga tgtaagggg tgcatgatcc ggtccgcaa ggaaggaag 300
tagaggtatc ttatacttgt ggggttaagg tgggggggat ataagaggga ggacgcaaa 360
ggaggctttg gattaggaat aaggggcggc aatgagatgc a 401

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<210> 114
<211> 401
<212> DNA
<213> Homo sapien

```

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<220>
<221> misc_feature
<222> (1)...(401)
<223> n = A,T,C or G

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```

<400> 114
angtccacag gangcangag gccaggctcc gtcccancca gtccatgatg ttgaagagga 60
ggaagcagca catgggggtt aagaactgac tccacttccc aggactgggt gagctggta 120
ccatggctgt ggtggcgggg aagacggaca gggtgacttc tggaagacag tgaagactga 180
aggttttcct ggcttctggg gctcatctgg ctctgattcc ggctccttct ccaggtaag 240
atccagggtt cagagctact ttcttggggg actactnggg aatcccgttc tcatctgggg 300
gtngaggggg gacggggnaa gggnatgct tgtgaccag gtttcccacc tcggcccgcg 360
accacgctaa ggcccgaatt ncagcacact tggcgccccg t 401

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```

<210> 115
<211> 401
<212> DNA
<213> Homo sapien

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```

<400> 115
atocctgtaa gtctattaaa tgtaaataat acatacttta caacttctct tagtcggccc 60
ttggcagatt aaatctttgc aaaattccat atgtgtctatt gaaaaatgaa ataaaacctc 120
agatgtctga attcttattt caaatagct tatataatta ttttaaatta caatatacaa 180
tttctgttaa atacaactgt taagggatc tgagaacaat tataagatta taataatata 240
tacaaactaa cttctgaaat gacatgggt gtttccttcc caccctcta cctctcaaa 300
gagtttttgc atttgctgtt cctggttgca aaaggcaaaa gaaaatctaa aaatagtctg 360
tgtgtgtcca cgacatgctc gtcctttga gaatctcaaa c 401

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<210> 116
<211> 301
<212> DNA
<213> Homo sapien

```

<220>
 <221> misc_feature
 <222> (1)...(301)
 <223> n = A,T,C or G

<400> 116
 ngattttaatt gnnagcttct ttttaatgga atnnttggct aaaatgaatt gatgattatg 60
 aatatcccta ggaggagtta gcatggannn tgatcatttt cttnagnactc ctttangaca 120
 nggaaacagg natcagcatg anggtancan aaaccttatn accnangcgc acganctgac 180
 ttcttccaaa gagttgnggt tccgggcagc ggtcattgcc gtgcccattg ctggagggct 240
 gattctagtg ntgcttatta tgctggccct gaggatgctt ccaanatgaa aataagangc 300
 t 301

<210> 117
 <211> 383
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(383)
 <223> n = A,T,C or G

<400> 117
 aattgcaact ggacttttat tgggcagtta cnacaacnaa tgttttcana aaaatatttg 60
 gaaaaaatat accacttcat agctaagtct tacagagaaan aggatttgct aataaaactt 120
 aagttttgaa aattaagatg cnggtanagc ttctgaacta atgccacag ctccaaggaa 180
 nacatgtcct atttagttat tcaaatacca gttgagggca ttgtgattaa gcaaacaata 240
 tatttggtan aactttgntt ttaaattact gntncttgac attacttata aaggagnctc 300
 taactttcga tttctaaaaac tatgtaatac aaaagtatan ntttcccat tttgataaaa 360
 gggccnanga tactgantag gaa 383

<210> 118
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 118
 ctgctagaat cactgccgct gtgctttcgt ggaaatgaca gttccttggt ttttttggtt 60
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 c 301

<210> 119
 <211> 401
 <212> DNA
 <213> Homo sapien

<400> 119
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 aacaagcttc ttggtataaa agactcttac agaatatgtg tattgtaatt tattgatctg 240
 gatgcttaag tgtcatggac agtaaatgaa tttgaacttt atgtttgagg acatgacatt 300
 gggtttgaaa atataaactg cttttgagca gtttaagtca gggcatttga gaataaaata 360
 ggaactttct cttcagtttg taaaactctc ttgccctctc t 401

<210> 120
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 120
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 gaagctctat ataaatccaa gacaagcaac aaaccottga tgattattca tcaattgggt 180
 gagtgccac acagtcaagc tttaaagaaa gtgtttgctg aaaataaaga aatccagaaa 240
 ttggcagagc agtttgtcct cctcaatctg gtttatgaaa caactgacaa acacctttct 300
 c 301

<210> 121
 <211> 2691
 <212> DNA
 <213> Homo sapien

<400> 121
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atcatgttcc ccctaaacat ggctgttaac ccactgcatg cagaaacttg gatgtcactg 2340
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aggtttttat ggggccctgt ccaggtagaa aagaaatggg atgtagagct tagatttccc 2640
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<210> 122

<211> 683

<212> PRT

<213> Homo sapien

<400> 122

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 1          5          10          15
Gly Pro Ala Ala Thr Leu Ala Gly Pro Ala Lys Ser Pro Tyr Gln Leu
          20          25          30
Val Leu Gln His Ser Arg Leu Arg Gly Arg Gln His Gly Pro Asn Val
          35          40          45
Cys Ala Val Gln Lys Val Ile Gly Thr Asn Arg Lys Tyr Phe Thr Asn
          50          55          60
Cys Lys Gln Trp Tyr Gln Arg Lys Ile Cys Gly Lys Ser Thr Val Ile
65          70          75          80
Ser Tyr Glu Cys Cys Pro Gly Tyr Glu Lys Val Pro Gly Glu Lys Gly
          85          90          95
Cys Pro Ala Ala Leu Pro Leu Ser Asn Leu Tyr Glu Thr Leu Gly Val
          100          105          110
Val Gly Ser Thr Thr Thr Gln Leu Tyr Thr Asp Arg Thr Glu Lys Leu
          115          120          125
Arg Pro Glu Met Glu Gly Pro Gly Ser Phe Thr Ile Phe Ala Pro Ser
          130          135          140
Asn Glu Ala Trp Ala Ser Leu Pro Ala Glu Val Leu Asp Ser Leu Val
145          150          155          160
Ser Asn Val Asn Ile Glu Leu Leu Asn Ala Leu Arg Tyr His Met Val
          165          170          175
Gly Arg Arg Val Leu Thr Asp Glu Leu Lys His Gly Met Thr Leu Thr
          180          185          190
Ser Met Tyr Gln Asn Ser Asn Ile Gln Ile His His Tyr Pro Asn Gly
          195          200          205
Ile Val Thr Val Asn Cys Ala Arg Leu Leu Lys Ala Asp His His Ala
210          215          220
Thr Asn Gly Val Val His Leu Ile Asp Lys Val Ile Ser Thr Ile Thr
225          230          235          240
Asn Asn Ile Gln Gln Ile Ile Glu Ile Glu Asp Thr Phe Glu Thr Leu
          245          250          255
Arg Ala Ala Val Ala Ala Ser Gly Leu Asn Thr Met Leu Glu Gly Asn
          260          265          270
Gly Gln Tyr Thr Leu Leu Ala Pro Thr Asn Glu Ala Phe Glu Lys Ile
          275          280          285
Pro Ser Glu Thr Leu Asn Arg Ile Leu Gly Asp Pro Glu Ala Leu Arg
          290          295          300
Asp Leu Leu Asn Asn His Ile Leu Lys Ser Ala Met Cys Ala Glu Ala
305          310          315          320
Ile Val Ala Gly Leu Ser Val Glu Thr Leu Glu Gly Thr Thr Leu Glu
          325          330          335
Val Gly Cys Ser Gly Asp Met Leu Thr Ile Asn Gly Lys Ala Ile Ile
          340          345          350

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Ser Asn Lys Asp Ile Leu Ala Thr Asn Gly Val Ile His Tyr Ile Asp
 355 360 365
 Glu Leu Leu Ile Pro Asp Ser Ala Lys Thr Leu Phe Glu Leu Ala Ala
 370 375 380
 Glu Ser Asp Val Ser Thr Ala Ile Asp Leu Phe Arg Gln Ala Gly Leu
 385 390 395 400
 Gly Asn His Leu Ser Gly Ser Glu Arg Leu Thr Leu Leu Ala Pro Leu
 405 410 415
 Asn Ser Val Phe Lys Asp Gly Thr Pro Ile Asp Ala His Thr Arg
 420 425 430
 Asn Leu Leu Arg Asn His Ile Ile Lys Asp Gln Leu Ala Ser Lys Tyr
 435 440 445
 Leu Tyr His Gly Gln Thr Leu Glu Thr Leu Gly Gly Lys Lys Leu Arg
 450 455 460
 Val Phe Val Tyr Arg Asn Ser Leu Cys Ile Glu Asn Ser Cys Ile Ala
 465 470 475 480
 Ala His Asp Lys Arg Gly Arg Tyr Gly Thr Leu Phe Thr Met Asp Arg
 485 490 495
 Val Leu Thr Pro Pro Met Gly Thr Val Met Asp Val Leu Lys Gly Asp
 500 505 510
 Asn Arg Phe Ser Met Leu Val Ala Ala Ile Gln Ser Ala Gly Leu Thr
 515 520 525
 Glu Thr Leu Asn Arg Glu Gly Val Tyr Thr Val Phe Ala Pro Thr Asn
 530 535 540
 Glu Ala Phe Arg Ala Leu Pro Pro Arg Glu Arg Ser Arg Leu Leu Gly
 545 550 555 560
 Asp Ala Lys Glu Leu Ala Asn Ile Leu Lys Tyr His Ile Gly Asp Glu
 565 570 575
 Ile Leu Val Ser Gly Gly Ile Gly Ala Leu Val Arg Leu Lys Ser Leu
 580 585 590
 Gln Gly Asp Lys Leu Glu Val Ser Leu Lys Asn Asn Val Val Ser Val
 595 600 605
 Asn Lys Glu Pro Val Ala Glu Pro Asp Ile Met Ala Thr Asn Gly Val
 610 615 620
 Val His Val Ile Thr Asn Val Leu Gln Pro Pro Ala Asn Arg Pro Gln
 625 630 635 640
 Glu Arg Gly Asp Glu Leu Ala Asp Ser Ala Leu Glu Ile Phe Lys Gln
 645 650 655
 Ala Ser Ala Phe Ser Arg Ala Ser Gln Arg Ser Val Arg Leu Ala Pro
 660 665 670
 Val Tyr Gln Lys Leu Leu Glu Arg Met Lys His
 675 680

<210> 123
 <211> 1205
 <212> DNA
 <213> Homo sapien

<400> 123
 ccagtcagca gagggacagg aatcattcgg ccactgttca gacgggagcc acacccttct 60
 ccaatccaag cctggcccca gaagatcaca aagagccaaa gaaactggca ggtgtccacg 120
 cgctccaggc cagtgaattg gttgtcactt actttttctg tggggaagaa attccatacc 180
 ggaggatgct gaaggctcag agcttgacct tgggccactt taaagagcag ctcagcaaaa 240
 agggaaatta taggtattac ttcaaaaaag caagcgatga gtttgcctgt ggagcgggtg 300
 ttgaggagat ctgggaggat gagacgggtgc tcccgatgta tgaaggccgg attctgggca 360
 aagtggagcg gatcgattga gccctgcggt ctggctttgg tgaactgttg gagcccgaag 420
 ctcttgtgaa ctgtcttggc tgtgagcaac tgcgacaaaa cattttgaag gaaaattaaa 480
 ccaatgaaga agacaaagtc taaggaagaa tcggccagtg ggccttcggg agggcggggg 540

gaggttgatt	ttcatgattc	atgagctggg	tactgactga	gataagaaaa	gcctgaacta	600
tttattaaaa	acatgaccac	tcttggctat	tgaagatgct	gcctgtattt	gagagactgc	660
catacataat	atatgacttc	ctagggatct	gaaatccata	aactaagaga	aactgtgtat	720
agcttacctg	aacaggaatc	cttactgata	tttatagaac	agttgatttc	ccccatcccc	780
agtttatgga	tatgctgctt	taaacttgga	agggggagac	aggaagtgtt	aattgttctg	840
actaaactta	ggagttgagc	taggagtgcg	ttcatggttt	cttcactaac	agaggaatta	900
tgctttgcac	tacgtccctc	caagtgaaga	cagactgttt	tagacagact	ttttaaaatg	960
gtgccctacc	attgacacat	gcagaaattg	gtgctgtttg	tttttttttc	ctatgctgct	1020
ctgttttgct	ttaaaggtct	tgaggattga	ccatgttgcg	tcatcatcaa	cattttgggg	1080
gttggttggtg	atgggatgat	ctgttgcgag	gggagaggca	gggaaccctg	ctccttcggg	1140
cccaggttg	atcctgtgac	tgaggctccc	cctcatgtag	cctccccagg	cccagggcc	1200
tgagg						1205

<210> 124

<211> 583

<212> DNA

<213> Homo sapien

<400> 124

ccaagaagca	gtggccttat	tgcatcccaa	accacgcctc	ttgaccaggc	tgctccctt	60
gtggcagcaa	cggcacagct	aattctactc	acagtgcctt	taagtgaaaa	tggtcgagaa	120
agaggcacca	ggaagccgtc	ctggcgcttg	gcagtccttg	ggacgggatg	gttctggctg	180
tttgagattc	tcaaaggagc	gagcatgtcg	tggacacaca	cagactattt	ttagattttc	240
ttttgccttt	tgcaaccagg	aacagcaa	gcaaaaactc	tttgagaggg	taggaggggtg	300
ggaaggaaac	aaccatgtca	tttcagaagt	tagtttgtat	atattattat	aattctataa	360
ttgttctcag	aatcccttaa	cagttgtatt	taacagaaat	tgtatattgt	aatttaaaat	420
aattatataa	ctgtatttga	aataagaatt	cagacatctg	aggttttatt	tcatttttca	480
atagcacata	tggaattttg	caaagattta	atctgccaa	ggccgactaa	gagaagttgt	540
aaagtatgta	ttattttacat	ttaatagact	tacagggata	agg		583

<210> 125

<211> 783

<212> DNA

<213> Homo sapien

<400> 125

tcaaccatac	atactgcttc	cactagctaa	taccaa	atgc	aggttctcag	atccagacaa	60
atggaggaaa	agaacattta	tgttccgtt	tcagaaagcc	aagtcgtagt	tttggccctt		120
cctttctcta	aagtttattc	ccaaaaacag	gtagcattcc	tgattgggca	gagaagagga		180
tattttcagc	ccacatctgc	tgcaggtatg	tcattttctc	ccatcttcac	tgtgactagt		240
aaagatctca	ccacttctct	ttggaatttc	caactttgct	tgtgattgaa	tgtcacttcg		300
tgaatttgta	ttatgtcaga	tcacttggca	ttgctcttcc	ataatgcata	agttgccagg		360
cactgttgcg	ctgtcgggcc	cactggaatc	cacgggggtg	aaacaaattc	aattatgctt		420
ttacagatcc	tgctcaaaaa	aggtttcaac	tgcttaacca	agtacagctc	attcttccac		480
cttcttactc	tgcaaccaaa	ccaagtgcc	catactacag	gtaggtgccg	agaaattccg		540
cagcagaaaa	tccaaaatca	tttctgaaac	ctccttgcta	acaaaagtgc	ttttttctc		600
caaacagcat	ataaaatgat	caagtcttga	aagagaaaa	aagcaaagta	gcaaatacat		660
caacaattca	ctatcagaaa	cacataaaat	cccagagaga	gagaaggcag	tatctctgaa		720
tcatggatgg	acttggaag	ttcggaaagga	ttccgagtg	ttcctttcag	aaagacaatt		780
ctg							783

<210> 126

<211> 604

<212> DNA

<213> Homo sapien

<400> 126

cctgctagaa	tactgcccgc	tgtgctttcg	tggaaatgac	agttccttgt	tttttttggt	60
------------	------------	------------	------------	------------	------------	----

tctgtttttg	ttttacatta	gtcattggac	cacagccatt	caggaactac	cccctgcccc	120
acaaagaaat	gaacagttgt	agggagaccc	agcagcacct	ttcctccaca	caccttcatt	180
ttgaagttcg	ggttttttgtg	ttaaagttaa	tctgtacatt	ctgtttgcc	ttgttacttg	240
tactatacat	ctgtatatag	tgtacggcaa	aagagtatta	atccactatc	tctagtgcct	300
gactttaaat	cagtacagta	cctgtacctg	cacggtcacc	cgctccgtgt	gtcgccctat	360
attgagggct	caagctttcc	cttgtttttt	gaaaggggtt	tatgtataaa	tatatattat	420
gcctttttat	tacaagtctt	gtactcaatg	acttttgtca	tgacattttg	ttctacttat	480
actgtaaatt	atgcattata	aagagttcat	ttaaggaaaa	ttacttggtg	caataattat	540
tgtaattaav	agatgtagcc	tttattaaaa	ttttatatatt	ttcaaaaaaa	aaaaaaaaaa	600
aaaa						604

<210> 127

<211> 417

<212> DNA

<213> Homo sapien

<400> 127

ctgagcctct	gtcaccagag	aaggctgagg	ccccaatggc	acacctcaga	aacctacacc	60
ccgaggctgg	acggctggac	tcctgagcac	aagctccctc	tcgcaccctt	tgccagacag	120
tttgtctcca	atttcaaact	gacctaaagg	tcttactcct	ggattttttg	tttttaaacc	180
ttctcccagc	cagtcttcgg	gagggcatga	ttagagaagt	gtccttttgc	tgatggagga	240
ggggaccta	ggaagaagg	ggatcccagg	tgctcctctc	ctaattgatc	ctccccacct	300
agtttccttt	gcctctcttc	cttctaccag	gtcatgtttt	ttactctctg	ccccttctgc	360
ctcctagcat	ttcaaaaact	gtagagtgc	ccccatagtg	gacattttta	gtccagg	417

<210> 128

<211> 657

<212> DNA

<213> Homo sapien

<400> 128

ccacactgaa	atgcagttta	atgtggaaac	ttttctaaat	acatattgta	gcattctttg	60
acatcaacgt	gtggcctgaa	attttttatta	ttgttccctc	ttctcctcca	ttaaaaaaaa	120
aatctccttg	tggtatttag	tcattttacca	ttaacacata	ttatggctta	aaaagggcca	180
tcccttcctt	ttctgagctg	gagttcttca	cgctcacctt	tgatgcatgg	ccttagctgg	240
ttactttgcc	ttggtttggt	catgaacatt	ggggtttagt	gcctggcaac	ttgaatgcat	300
atggaaagaa	caatgccaa	tgatctgaca	taatacaaat	tccgaagtga	cattcaatca	360
caagcaaat	tggaattcc	aaagagaagt	ggtgagatct	ttactagtca	cagtgaagat	420
gggagaaaat	gacatacctg	cagcagatgt	gggctgaaaa	tatcctcttc	tctgcccatt	480
caggaatgct	acctgttttt	gggaataaac	tttagagaaa	ggaagggcca	aaactacgac	540
ttggctttct	gaaacggaag	cataaatgtt	cttttcctcc	atgtgtctgg	atctgagaac	600
ctgcatttgg	tattagctag	tggaagcagt	atgtatgggt	gaagtgcatt	gctgcag	657

<210> 129

<211> 1220

<212> DNA

<213> Homo sapien

<400> 129

cgctgtctcg	gctcacacca	acaaggcaag	ccaaaggcgc	ccctccccag	agggatccct	60
aacgtgcccc	gcatgtagat	tctggactaa	cagacaacat	acattcaccg	ctggtcaccc	120
agatcctcat	tcaaaccac	tgtgtgcaca	tccctttcct	tactttgccc	tgtgtacca	180
gccacggaag	gagcctctct	tgttttttct	ataaaatggg	taggcaggag	aaaagcaggt	240
gccctaagat	tgtctaaagg	cccagcatgt	ggttacagtt	ctctgacttg	cagaacctgc	300
caggtgtatg	gctacaagtt	atcctcgtgc	tgatctgtct	cattactaag	ttaatggaga	360
agacagaaag	gtaaaaatca	cgtgtagcaa	gaacaactct	tatttcacaa	actcaggtat	420
gaaacgaaac	gcctgtcctt	catggaaactg	cttttagctc	ctgtcttttc	aaaatggcag	480
aggaggttcc	tacacacact	ttttccctgg	aggccaagg	ctaggggtag	aaaggggagg	540

gggtggggcta	ccaggttagca	gttgacaacc	caaggtcaga	ggagtggccc	tcagtgtcat	600
ctgtccacag	tgatacctgc	caagatgacc	actgaccac	atctgggtctt	agtcattgggt	660
ctcctcagat	ttctggggcc	acctgcaagc	cccattccat	tcctacagat	ctctcagcca	720
cctgtaagtc	ctttgtgaag	atgtgggtga	cacaggggga	caggaaaacc	catttctcaa	780
cccagatcca	tgtctccact	gcttctactc	tgggttggga	ttcaggaaga	caggcacagt	840
cctctctgtt	catagaaaca	cctgccagtg	tcaaggattc	cagtcagggtg	tctatcccaa	900
ctggtcaggg	agagaagggc	agacccattc	tcaaagacca	ccatgtccaa	ggtctgacag	960
ctccccactg	gctgccccca	caggggcttt	aggctgggtct	gggtcatggg	gaagcgtccc	1020
tcttatcgct	ggtctgtgtt	ctcctggatt	tggatatctat	gttggtagca	ctcctggcct	1080
tttatctaaa	ggactttggc	ttttgtaaat	cacaagccaa	taatagactt	ttttctcccc	1140
ctctgttttt	tgctgtgtca	tctctgcctt	gagactgcct	tgagacagtg	cttgccttga	1200
gagagtgcgc	caattaacag					1220

<210> 130

<211> 1274

<212> DNA

<213> Homo sapien

<400> 130

ccatatgagt	ttgccatctc	catggatgcc	atttcaatgc	cttcagggta	atcatttctct	60
ccccaaagac	tgcccacggg	gtcatcactc	ctgtgacgaa	atgagggctg	gattgaagat	120
gttctgctga	gcacccccct	ggtcatcttt	gggtctctag	aagagccata	atcatgacca	180
ttctcagcat	ctgaataatc	aggttctctc	caagtgcctg	gcaagttctg	attgtcctca	240
gcactgggat	agtctggctc	cccaaaaaag	ggtggagagt	taggttgaat	gtcagcgcct	300
ggataatcag	gctttcccag	agagtctgcg	tatggattga	ttctaaaact	tgtatgttcc	360
agattctttc	tggatcctgg	atggttcaaa	ttggctctgg	gtccaggatg	atcagagttg	420
ctctgagctc	cagggtagtc	cggttctaa	gagccaaaat	gatctggatg	tgttctggag	480
cctgcatagt	ttccactgct	gctggagcct	gcaaaatcag	gatttcgctg	agatccaggg	540
tagtctgggt	gtctggatga	tgctcggtgg	tagggatgac	tctgaaattc	actataatct	600
ggctctggta	gagaggtagg	atggctctgg	cttgttctag	aggctgcaga	gtatgcattg	660
cttctgggtc	cagaatagtc	tggattactc	agagatctag	gataatttgg	ttctgccaga	720
gaccaggat	agtctggacg	tgttctggag	gctacagagt	atggattgct	cctggtgccg	780
gggtaatctg	gattgttcag	aggacctgga	acatctggat	aaccttgagt	tttcaaatac	840
ccctgcgtac	ggttctgaga	ccctgaatag	tcagggtaat	ctgggtcttc	ctcagaccag	900
ttattcctgt	agtaggcaga	catgttggtg	tggactcttc	accctggagt	ggtaaactgt	960
cccagcattt	gcaattactc	agggatcttt	tttttttcac	ttttttgccc	ttattgttct	1020
tgctttgtcc	caagtagatg	caaagtgtgt	gcaaaccaac	ttgatcttaa	gatgttggtg	1080
agaacactgg	agtcacgtgt	ccatgggtcc	ttcaggctgg	cttttgatgg	gagctgggat	1140
gcagatgatt	tacggagggg	tataatctgt	gatgctggtc	tgaagtctga	atattccaag	1200
ttgctgactg	caggcagagc	ctcatgtcct	cctggcgctc	ctgttgccgc	tgcttgcgct	1260
ggccctcggg	tcga					1274

<210> 131

<211> 554

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(554)

<223> n = A,T,C or G

<400> 131

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gaaattcctc	ctttctacct	ctctgggact	ctgagacagg	aaatcttcaa	ggaggagttt	120
ttccctcccc	actattctta	ttctcaaccc	ccagagggaac	caaggctgct	gtaccacact	180
caggacaga	actccacact	atagtgggaa	agcttcaggg	acccctcctt	ttagtgtctca	240
gggctcacct	atgctactgg	tccttttggc	aaaaaaggaa	aatgatagag	ccagggttgc	300

ccctgatgta	gcagccttac	tgtggagggg	ccaaagctgg	tgttcagagc	tcacccaagg	360
agggaggtga	taaggtgtca	tgcgttctgc	tgaacccaact	ggntggtatg	aacatgaggc	420
ttgggggtgag	ggaaaccaag	taggggttgg	agaaggagca	gcacctttgt	macacctggc	480
tacctatagc	tagctttctg	ccctcaaaaa	ctcagccttc	aagggatcca	gccacacac	540
gccacaggca	gcag					554

<210> 132
 <211> 787
 <212> DNA
 <213> Homo sapien

<400> 132						
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gaggctgga	tccttcagcc	ccagagccca	gggaccactc	cagtagatgc	agagaggggc	120
ctgcccagg	gtcagggcag	tgggtatcac	tggtgacatc	aagaatatca	gggctgggga	180
ggcatctttg	tttcctggtg	ccctcctcaa	agttgctgac	actttgggga	cgggaagggg	240
tagaagtagg	gctgctcctt	ttggagctgg	aggaataga	cctggagaca	gagttgaggc	300
agtcgggctg	tccaggttct	aagcatcaca	gcttctgcac	tgggctctga	ggagattctc	360
agccagagga	tcccagcctc	ctcctccctc	aaatgtcagt	ccaagcaa	accaaagcaa	420
cgcctcgatt	ttgtggaagt	caattagaga	tgtggggagc	tatcggagac	aagcactatt	480
gtaccttttc	acctccacac	ttgtcacaag	cagggactgt	ctcctcccca	ctttgcttgc	540
cacgccctgc	atggcttgag	ctgggggtgag	gagtggctct	tatcttcttt	gggagatcct	600
gactggttgc	gcacttgcta	agggcaggaa	gtctggaggg	ctgcagggaat	ggtgccgttg	660
ataaacaggt	ggacttataa	tcatcatgca	ctgcaattgt	agaacatagt	ctcctgcctt	720
ttctcatttg	tataattgtc	tgggtcaata	ttctcccaat	attgggaggg	gctctgcagc	780
cctccag						787

<210> 133
 <211> 219
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(219)
 <223> n = A,T,C or G

<400> 133						
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aggaaggtca	tttccatgta	tgcataataa	tcctgcaaag	tacaggtagt	ttgtctaaga	120
aacattggaa	gcagggttaa	tgttttgtaa	actttgaaat	atatggtcta	atgtttaagc	180
agaattggaa	nagactaata	tcgggttaaca	aataacaac			219

<210> 134
 <211> 234
 <212> DNA
 <213> Homo sapien

<400> 134						
gattttaaaa	acatcatgac	tttgaactga	aaaacataca	cgtttagcac	acaaatattg	60
taatatgaat	gaactccaac	tccatttgaa	aacatgtgaa	tcaaagtaca	gttttagaag	120
ttagtaattc	acattttaagc	aagtttaggc	cttgctgaat	acagcctttg	taaaaaagag	180
acttagtgca	tatttttaatg	gtacattgtg	gttttgtacc	atttggttga	gttg	234

<210> 135
 <211> 414
 <212> DNA
 <213> Homo sapien

<400> 135
 ctccagcctg gctatatccg gtcccgtctat aacctgggca tcagctgcat caacctcggg 60
 gctcaccggg aggctgtgga gcactttctg gaggccctga acatgcagag gaaaagccgg 120
 ggcccccggt gtgaaggagg tgccatgtcg gagaacatct ggagcaccct gcgtttggca 180
 ttgtctatgt taggccagag cgatgcctat ggggcagccg acgcgcggga tctgtccacc 240
 ctccaaacta tgtttggcct gcccagtgga cagtgggacg ggctgccctg tgagtgtcca 300
 cctggggatt aaatatgtct tcaacaaggg aggcctggct tctacaatgg tttaggtaaa 360
 ggggcctttg aagtagttct ggccaggctt gcaatacaca caacacaaga gccca 414

<210> 136
 <211> 461
 <212> DNA
 <213> Homo sapien

<400> 136
 gaagtgatta ataggtttat ttgcatatac acagagaaga gtcagcattg ttgggtgaga 60
 agaggcaggc tgtgaggagg taaggcttca gcagaggaag gcaccttgac agacaacacg 120
 agactcctat taaatcagca cagttgcaaa cttcacctgc ctcaagccaa cagctcattg 180
 aactcatatg tcgattgaga atcatttaca aaaccaggag agaaacaatg ggaagagcaa 240
 cgggtctctca tccctggacc tgacactcaa aacattatgt acaggatgca ggaacaaaat 300
 ctgtctgatc agtgccctct cctgctggga aaaacaccca tcacggaaga atttggggat 360
 taaatatgtc ttcaacaagg gaggcctggc ttctacaatg gtttaggtta aggggccttt 420
 gaagtagttc tggccaggct tgcaatacac acaacacaag a 461

<210> 137
 <211> 269
 <212> DNA
 <213> Homo sapien

<400> 137
 atagcaaatg gacacaaatt acaaatgtgt gtgcgtggga cgaagacatc tttgaaggtc 60
 atgagtttgt tagtttaaca tcatatattt gtaatagtga aacctgtact caaaatataa 120
 gcagcttgaa actggcttta ccaatcttga aatttgacca caagtgtctt atatatgcag 180
 atctaattgta aaatccagaa cttggactcc atcggttaaaa ttatttatgt gtaacattca 240
 aatgtgtgca ttaaatatgc ttccacagt 269

<210> 138
 <211> 452
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(452)
 <223> n = A,T,C or G

<400> 138
 ctccatggga ggcaaaatat agagaattta tggtgcccaa ctcttatgta atcactggac 60
 taatcttccc tggtaactat gcaacatttg gacagaaagg cacacaaaaa agttttaata 120
 tttcatgtgc caatctggaa aaaaataatt taaatcaaca gaacagacag tacatctaca 180
 caaatgagga aagcagaaaa gatacctcac attcatttat ctcaggtttc aaagtggctt 240
 caatgctaaa gtaaatgtat taacatttgg aaaatacaag acaatttttt tgtttgtttt 300
 caattttttt agctctatac aatgattaca acataagaca aaaaaaaaaa aaaaacacaa 360
 aaaacaaaac aaaaaaggag ttcaggactt gttatcagtg tccaagtggc taanaactgg 420
 ttcccataac aagcattgaa agttaaggcc cc 452

<210> 139

<211> 474
 <212> DNA
 <213> Homo sapien

<400> 139
 tgtgcctcat tgaggttaca attgaaacag atgtgagcac ctgagagact ttccctgatt 60
 atattcctcc acaaaccact gtaccatatt accttatttt atcttcttga aattcttatt 120
 cattggcttg tttgttgtct ctttgcatta gatatatgta agctccttgg cataaatttg 180
 acattggtag gggactgaca ttctaacctg gcccaggccc taggagagag ataactccac 240
 aaagcagcac atactatctt aggttagcag ggagctaact caccatgtag cagatgaaaa 300
 aaaccaaac cagcaactgtg cataaatacc acttgccaag aagtcaggtc ctcggaacc 360
 gagaatcaac ctgagcacaac acgcagggtg ctgggtctctg ttccccctta gccaccacct 420
 cagcctctcc cctccccctg cccaagtgcc caagagcttg gctctctgtg cttt 474

<210> 140
 <211> 487
 <212> DNA
 <213> Homo sapien

<400> 140
 cttccctgcc tcgtgttcct gagaaacgga ttaatagccc tttatcccc tgcaccctcc 60
 tgcaggggat ggcactttga gccctctgga gccctcccct tgctgagcct tactctcttc 120
 agactttctg aatgtacagt gccgttggtt gggatttggg gactggaagg gaccaaggac 180
 actgaccca agctgtcctg cctagcgctc agcgtcttct aggaggggtg ggtctgcctg 240
 tcctgggtgtg gttgggtttg ccctgtttgc tgtgactacc cccccctc cccgaaccga 300
 gggacggctg cctttgtctc tgccctcagat gccacctgcc ccgcccctgc tccccatcag 360
 cagcatccag actttcagga agggcagggc cagccagtc agaaccgcat ccctcagcag 420
 ggactgataa gccatctctc ggaggggccc ctaataccca agtggagtct ggttcacacc 480
 ctggggg 487

<210> 141
 <211> 248
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(248)
 <223> n = A,T,C or G

<400> 141
 ttaaagatgg ggaaatgagg cctgnaaata gaaaagattt gcctagagtc acacacactg 60
 tcaggtcagg tagagtcaaa atcaggcacc ccgactcaca gactgcttca cattgccatc 120
 agagattgtc ctgcaacaat attatgttta gttctactgc agaagataa ctggatctta 180
 ccccttttgc ctgatctggc cacaaacttg tttttcaggt ctttccatta ggctctcttc 240
 agctaatt 248

<210> 142
 <211> 173
 <212> DNA
 <213> Homo sapien

<400> 142
 tactaagatt gtccaagcct ccctcttaaa actttctttc cctttagagg aatcattact 60
 tcgtattaaa agtttctact tccttgtaga atatctacat ccaatgggcc atggcacaaa 120
 atttaagtct agaaagaatc ttaaaggctc atcttatagt aaccagaggc agg 173

<210> 143

<211> 511
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(511)
 <223> n = A,T,C or G

<400> 143
 cctcgtcaga ggggtggttc ctggtnacct gtactccacg gacctcggtg aagcaaaagc 60
 ttcagggcag aggggaatgag gcaaccacgt ggcagccccc ctgggccccg tggctcctgc 120
 tctcctattg gacgtagagg caggggagag acttctctat acaaattatc tcatcacaga 180
 agggatgata cttgctgctc tgccgtaggg tttttgatgc tgagctatgc tgcacatgac 240
 gttaacctaa agaacttgga ctgagctttt aaaaaaggac agcaaacaat tttataatcc 300
 tttaaagtga atagacgggt acactagtgc aggggtattg ggaggctctt tgggtgtgga 360
 ggctgtcact tgtattttatt gtgactctaa atctttgata gtaaaacaaa tgtaaaaaga 420
 aatgtttgcc accagatggg aatagaagtt ccaataagca ggctggaatg ggtggctata 480
 cgttgtatca cgaggaagtt ttagactctg a 511

<210> 144
 <211> 190
 <212> DNA
 <213> Homo sapien

<400> 144
 cattcttctg tcacatgcc aattcagttgt caatcccatt gtctatgctt accggaaccg 60
 agacttccgc tacacttttc acaaaattat ctccaggat ctctctctgcc aagcagatgt 120
 caagagtggg aatggtcagg ctgggggtaca gcctgctctc ggtgtggggc tatgatctag 180
 gctctcgcct 190

<210> 145
 <211> 169
 <212> DNA
 <213> Homo sapien

<400> 145
 gatgtgggta tctcctcaga tggccagttt gccctctcag gctcctggga tggaaacctg 60
 cgcctctggg atctcacaac gggcaccacc acgaggcgat ttgtgggcca taccaaggat 120
 gtgctgagtg tggccttctc ctctgacaac cggcagattg tctctggat 169

<210> 146
 <211> 511
 <212> DNA
 <213> Homo sapien

<400> 146
 atctagagaa gatttgggaa acacatgata gctatgggta aatacttaac agggcaatca 60
 caggggaagat gactagattt cctaaccatcc atgagtgaag tttatagaag tatactctct 120
 gacttgatat aaaggaagat tttaaaaaac atgactgttc aggagtgttc aagtagggtc 180
 agatgaccag tgattgggaa tacttcgtaa gcaggagcaa gtaagatctg agccactgtt 240
 ctatcggtag ggtgtctgtg gtattccttg gtcaaagaag tactctaagc aacttcagtc 300
 tcacgaatta ctatcaccct cgtgggcata catgatggtt accctaaaga ggaagtttca 360
 gaaggcagta atattggatc ctggaatagt cagacaggag ccttcatgca gatacccttt 420
 tcagttctcc atacacccat tcacaaagtgg tcacaaaaaac acccagtagc tttacttggc 480
 tttaccact taacaatatg ctcaatatga g 511

<210> 147

<211> 421
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(421)
 <223> n = A,T,C or G

<400> 147
 gaccagtgtga gttcttcctg gctattgtat aatccacagc cactctgtga aagcaaattc 60
 ggccagtttag caacacaggg agaattctgcc tgaactgacc aaagggtgtcc atacttcatg 120
 tcagtgtgaa tttcacctcc atcatgttct aaagagccaa caacagattc tagggcactg 180
 caaaatgctt cagcaattaa ttgaagttct gtttgagtac attcatcatc tttgagaatg 240
 ctttctgggt cgttgtgagt cttgtgtctg atatatgcag ccaaattgagt ttcagtacag 300
 ccacctccca acaaagcca tggttccttg agtggttaact gcaggacatg cagtgcctgc 360
 tgacacgtga gcttcagctc atcccangca gtgtcatttc tgttgcagag aagccaagct 420
 g 421

<210> 148
 <211> 237
 <212> DNA
 <213> Homo sapien

<400> 148
 acacaccact gttggccttc catctgggtt aagtcaactg tgagtagaaa ccgaagataa 60
 cagttttgta ttcataatgg ccttttcata ctccaagtac ttttgagcac agagcctctt 120
 gcttctgacc tggcacttgg aacacagata tatatatctt ttgttctgtc cctgggaaac 180
 tgatatttgt gtaagacaac caccagatat tttctctaata aaaatcttct aaaatta 237

<210> 149
 <211> 168
 <212> DNA
 <213> Homo sapien

<400> 149
 agagaaagt aaagtgaat aatgtttgaa gacaataagt ggtggtgtat cttgtttcta 60
 ataagataaa cttttttgtc tttgctttat cttattaggg agttgtatgt cagtgtataa 120
 aacatactgt gtggtataac aggcttaata aattctttaa aaggagag 168

<210> 150
 <211> 68
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(68)
 <223> n = A,T,C or G

<400> 150
 ggtggggttt ggcagagatg antttaagt ctgtggccag aagcgggggg gggggttgg 60
 ggaaattt 68

<210> 151
 <211> 421
 <212> DNA
 <213> Homo sapien

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<400> 151
aggtgacacg tattcgggat gaaagtataa tagtcattcc ttcaaccctt gcatttatgg      60
actctggaag tcgaagatcc acagtgagta aagatgttcg tccaaagaca aaaaatagaa      120
acagctcaac aaagcgagag acaaaaaaac aaaatggcac tgtggctctg cctttgaagt      180
ctgggctcca gcagagggct gatcttccca caggagacga gacggcctat gacactctcc      240
agaactgttg tcagtgccga attttacttc ccttgcccat tctaaatgag caccaggaga      300
agtgccagag gttagctcac caaaagaaac tccagtgggg ctggtgagat ggctcagcgg      360
gtaagagcac ccgactgctc ttccgaaggt ccggagttca aatcccagca accacatggt      420
g                                                                421

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<210> 152
<211> 507
<212> DNA
<213> Homo sapien

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<220>
<221> misc_feature
<222> (1)...(507)
<223> n = A,T,C or G

```

```

<400> 152
gaattcggca cnagctcgtg ccgccagggt nggtcctttt tttgctccgc ctccgccanga      60
cttcctacag ctatcgccag tcgtcggcca cgtentcctt cngaggcctg ggccggcggt      120
ccgtgcgttn tgggcccggg gtcgcctttc nctcncccag cattcacggg ggctccggcg      180
gccgcggcgt atccgtgtcc tccgcccgt ntgtgtcttc gtcctcctcn ggggcctacg      240
gctngctgct acngcggctt cctgaccgct tccnacgggc tgctggcngg caacgagaag      300
ctaaccatgc agaaccnnaa cnaccgcctg gcctcctacc tgnacaaggt gcgcncctg      360
taggcggcca acggcnagct agaggtgaag atcncctact gggtagcaga agcagggggc      420
tgggccctgc ccgactacag ccactnctnc acnaccatgc agtacctgcn ggganaagat      480
tntngggngc caccatngag aactgca                                                                507

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<210> 153
<211> 513
<212> DNA
<213> Homo sapien

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<400> 153
gaattcggca cgagggtggct cagatgtcca ctactgggag tatggtcgaa ttgggaattt      60
tattgtgaaa aagcccatgg tgctgggaca tgaagcttcg ggaacagtcg aaaaagtggg      120
atcatcggtg aagcacctaa aaccagggtg tcgtgttgcc atcgagcctg gtgctccccg      180
agaaaatgat gaattctgca agatgggccg atacaatctg tcaccttcca tcttctctcg      240
tgccgcgccc cccgatgacg ggaacctctg ccggttctat aagcacaatg cagccttttg      300
ttacaagctt cctgacaatg tcacctttga ggaaggcgcc ctgatcgagc cactttctgt      360
ggggatccat gcctgcagga gaggcggagt taccctggga cacaagggtc ttgtgtgtgg      420
agctgggcca atcgggatgg tcactttgct cgtggccaaa gcaatgggag cagctcaagt      480
agtggtgact gatctgtctg ctacccgatt gtc                                                                513

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```

<210> 154
<211> 507
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(507)
<223> n = A,T,C or G

```

<400> 154
 ggcacgagct cgtgccgaat tcggcncgag cagacacaat ggtaagaatg gtgcctgtcc 60
 tgctgtctct gctgctgctt ctgggtcctg ctgtccccc ggagaaccaa gatggtcggt 120
 actctctgac ctatatctac actgggctgt ccaagcatgt tgaagacgtc cccgcgtttc 180
 aggcccttgg ctcaactcaat gacctccagt tctttagata caacagtaaa gacaggaagt 240
 ctacagccat gggactctgg agacaggtgg aaggaatgga ggattggaag caggacagcc 300
 aacttcagaa ggccaggag gacatcttta tggagaccct gaaagacatc gtggagtatt 360
 acaacgacag taacgggtct cacgtattgc agggaagggt tggttgtgag atcgagaata 420
 acagaagcag cggagcattc tggaaatatt actatgatgg aaaggactac attgaattca 480
 acaaagaaat cccagcctgg gtcccct 507

<210> 155
 <211> 507
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(507)
 <223> n = A,T,C or G

<400> 155
 ggcacgagga gacctaaagg ctgagntctg ggaacaggag aaagctctgt tggccctcca 60
 gcagcagtgt gctgagcagg cacaggagca tgaggtggag accagggccc tgcaggacag 120
 ctggctgcag gcccaggcag tgctcaagga acgggaccag gagctggaag ctctgcgggc 180
 agaaagtcag tcctcccggc atcaggagga ggctgcccgg gcccgggctg aggtctctgca 240
 ggaggccctt ggcaaggctc atgctgccct gcaggggaaa gagcagcatc tcctcgagca 300
 ggcaagaatt agccgcagtc tggaggccag cactgcaacc ctgcaagcct ccctggatgc 360
 ctgccaggca cacagtcggc agctggagga ggctctgagg atacaagaag gtgagatcca 420
 ggaccaggat ctccgatacc aggaggatgt gcagcagctg cagcaggcac ttgccagag 480
 ggatgaagag ctgagacatc agcagga 507

<210> 156
 <211> 509
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(509)
 <223> n = A,T,C or G

<400> 156
 ggcacgagga cagagagaac cctgtngaaa gagcgttacc aggaggtcct ggacaaacag 60
 aggcaagtgg agaatacagct ccaagtgcaa tttaagcagc ttcagcaaag gagagaagag 120
 gaaatgaaga atcaccagga gatattaaag gctattcagg atgtgacaat aaagcgggaa 180
 gaaacaaaga agaagataga gaaagagaag aaggagtttt tgcagaagga gcaggatctg 240
 aaagctgaaa ttgagaagct ttgtgagaag ggcaagaag aggtgtggga aatggaactg 300
 gatagactca agaatacagga tggcgaaata aataggaaca ttatggaaga gactgaacgg 360
 gcctggaagg cagagatctt atcactagag agccggaaag agttactggg actgaaacta 420
 gaagaagcag aaaaagaggc agaattgcac cttacttacc tcaagtcaac tcccccaaca 480
 ctggagacag ttcgttccaa acaggagtg 507

<210> 157
 <211> 507
 <212> DNA
 <213> Homo sapien

<400> 157
 ggcacgaggg cagccctcct accggcgcac gtggtgccgc cgctgctgcc tcccgcctcg 60
 cctgaaccca gtgcctgcag ccatggctcc cggccagctc gccttattta gtgtctctga 120
 caaaaccggc cttgtggaat ttgcaagaaa cctgaccgct cttggtttga atctggctcg 180
 ttccggaggg actgcaaaaag ctctcagggg tgctggctctg gcagtcagag atgtctctga 240
 gttgacggga tttcctgaaa tgttgggggg acgtgtgaaa actttgcac ctgcagtcca 300
 tgctggaatc ctagctcgta atattccaga agataatgct gacatggcca gacttgattt 360
 caatcttata agagttgttg cctgcaatct ctatcccttt gtaaagacag tggcttctcc 420
 aggtgtaagt gttgaggagg ctgtggagca aattgacatt ggtggagtaa cttactgag 480
 agctgcagcc aaaaaccacg ctcgagt 507

<210> 158
 <211> 507
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(507)
 <223> n = A,T,C or G

<400> 158
 ggcacgagtc gagctgtgcc tattcgngtc aatccaagag tgagtaatgt gaagtctgtc 60
 tacaaaaccc acattgatgt cattcattat cggaaaacgg atgcaaacg tctgcatggc 120
 cttgatgaag aagcagaaca gaaacttttt tcagagaaac gtgtggaatt gcttaaggaa 180
 ctttccagga aaccagacat ttatgagagg cttgcttcag ccttggctcc aagcatttat 240
 gaacatgaag atataaagaa gggaattttg cttcagctct ttggcgggac aaggaaggat 300
 tttagtcaca ctggaagggg caaatttcgg gctgagatca acatcttgct gtgtggcgac 360
 cctggtacca gcaagtccca gctgctgcag tacgtgtaca acctcgctcc caggggccag 420
 tacagctntg ggaagggtc cagtgcantt ggcctnactg cntacgtaat gaaagaccct 480
 gagacaaggn anctggnnct gnnacag 507

<210> 159
 <211> 508
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(508)
 <223> n = A,T,C or G

<400> 159
 ggcacnanaa accaggatta tggtnnggat ccaaagattg ctaatgcaat aatgaaggca 60
 gcagatgagg tagctgaagg taaattaaat gatcattttc ctctcgtggg atggcagact 120
 ggatcaggaa ctacagacaa tatgaatgta aatgaagtca ttagcaatag agcaattgaa 180
 atgttaggag gtgaacttgg cagcaagata cctgtgcac ccaacgatca tgtaataaaa 240
 agccagagct caaatgatac ttttcccaca gcaatgcaca ttgctgctgc aatagaagtt 300
 catgaagtac tgttaccagg actacagaag ttacatgatg ctcttgatgc aaaatccaaa 360
 gagtttgcac agatcatcaa gattggacgt actcatactc aggatgctgt tccacttact 420
 cttgggcagg aatttagtgg ttatgttcaa caagtaaaat atgcaatgac aagaataaaa 480
 gctgccatgc caagaatcta tgagctcg 508

<210> 160
 <211> 508
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(508)
 <223> n = A,T,C or G

<400> 160
 ggcacgagct tggagcaaag tcactctnaag gaattagagg acacacttca ggtagggcac 60
 atacaagagt ttgagaaggt tatgacagac cacagagttt ctttggagga attaaaaaag 120
 gaaaaccaac aaataattaa tcaaatacaa gaatctcatg ctgaaattat ccaggaaaaa 180
 gaaaacagat tacaggaatt aaaactcaag gtttctgatt tgtcagacac gagatgcaag 240
 ttagagggtt aacttgctgt gaaggaagca gaaactgatg aaataaaaaat tttgctggaa 300
 gaaagcagag cccagcagaa ggagaccttg aaatctcttc ttgaacaaga gacagaaaat 360
 ttgagaacag aaattagtaa actcaaccaa aagattcagg ataataatga aaattatcag 420
 gtgggcttag cagagctaag aactttaatg acaattgaaa aagatcagtg tatttccgag 480
 ttaattagta gacatgaaga agaactca 508

<210> 161
 <211> 507
 <212> DNA
 <213> Homo sapien

<400> 161
 ggcacgagcg ctaccggcgc ctctctctgcg gccactgagc cggagccggc ctgagcagcg 60
 ctctcgggtt cagtaccac tggaaggact taggcgctcg cgtggacacc gcaagcccct 120
 cagtgcctc ggcccaagag gctgctttc cactcgctag ccccgccggg ggtccgtgtc 180
 ctgtctcggg ggccggaccc gggcccgagc ccgagcagta gccggcgcca tgtcgggtgt 240
 gggcatagac ctgggcttcc agagctgcta cgtcgtgtg gccgcgccc gcggcatcga 300
 gactatcgct aatgagtata gcgaccgctg cagcggcgct tgcatttctt ttggtcctaa 360
 gaatcgttca attggagcag cagctaaaag ccaggtaat tctaatacaa agaacacagt 420
 ccaaggattt aaaagattcc atggccgagc attctctgat ccatttgtgg aggcagaaaa 480
 atctaacctt gcatatgata ttgtgca 507

<210> 162
 <211> 507
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(507)
 <223> n = A,T,C or G

<400> 162
 ggcacgagca gctgtgcacc gacatgntct cagtgtcctg agtaagacca aagaagctgg 60
 caagatcctc tctaataatc ccagcaaggg actggccctg ggaattgcca aagcctggga 120
 gctctacggc tcacccaatg ctctggtgct actgattgct caagagaagg aaagaaacat 180
 atttgaccag cgtgccatag agaattgagct actggccagg aacatccatg tgatccgacg 240
 aacatttgaa gatattctctg aaaaggggtc tctggacca gaccgaaggc tgtttgtgga 300
 tggccaggaa attgctgtgg ttacttccg ggatggctac atgcctcgtc agtacagtct 360
 acagaattgg gaagcacgtc tactgctgga gaggtcacat gctgccaaagt gccagacat 420
 tgccacccag ctggctggga ctaagaaggt gcagcaggag ctaagcaggc cgggcatgct 480
 ggagatgttg ctccctggcc agcctga 507

<210> 163
 <211> 460
 <212> DNA
 <213> Homo sapien

<400> 163
 ggcacgagaa ataactttat ttcatgtgtg gtcgcggttc ttgtttgtgg atcgtctgtga 60
 tcgtcacttg acaatgcaga tcttcgtgaa gactctgact ggtaagacca tcaccctcga 120
 ggttgagccc agtgacacca tcgagaatgt caaggcaaaag atccaagata aggaaggcat 180
 ccctcctgac cagcagaggc tgatctttgc tggaaaacag ctggaagatg ggcgcaccct 240
 gtctgactac aacatccaga aagagtccac cctgcacctg gtgctccgtc tcagaggtgg 300
 gatgcaaate ttctgtgaaga cactcactgg caagaccatc acccttgagg tggagcccag 360
 tgacaccatc gagaacgtca aagcaaagat ccaggacaag gaaggcattc ctcttgacca 420
 gcagagggtg atctttgccg gaaagcagct ggaagatggg 460

<210> 164

<211> 462

<212> DNA

<213> Homo sapien

<400> 164
 ggcacgagcc ggatctcatt gccacgcgcc cccgacgacc gcccgcagtg cattcccgat 60
 tccttttggg tccaagtcca atatggcaac tctaaaggat cagctgattt ataactttct 120
 aaaggaagaa cagaccccc agaataagat tacagttgtt ggggttgggt ctgttggcat 180
 ggctgtgcc atcagtatct taatgaagga cttggcagat gaacttgctc ttgttgatgt 240
 catcgaagac aaattgaagg gagagatgat ggatctccaa catggcagcc ttttccttag 300
 aacaccaaag attgtctctg gcaaagacta taatgttaact gcaaactcca agctggcat 360
 tatcacggct ggggcacgtc agcaagaggg agaaagccgt cttaatttgg tccagcgtaa 420
 cgtgaacatc tttaaattca tcattcctaa tgttgtaaaa ta 462

<210> 165

<211> 462

<212> DNA

<213> Homo sapien

<400> 165
 ggcacgagga agccatgagc agcaaagtct ctgcgcacac cctgtacgag gcggtgcggg 60
 aagtcttgca cgggaaccag cgcaagcgcc gcaagttcct ggagacggtg gagttgcaga 120
 tcagcttgaa gaactatgat cccagaagg acaagcgctt ctcgggcacc gtcaggctta 180
 agtccactcc ccgccetaag ttctctgtgt gtgtcctggg ggaccagcag cactgtgacg 240
 aggctaaggc cgtggatc cccacatgg acatcgaggc gctgaaaaaa ctcaacaaga 300
 ataaaaaact ggtcaagaag ctggccaaga agtatgatgc gtttttggcc tcagagtctc 360
 tgatcaagca gattccacga atcctcggcc caggtttaa taaggcagga aagttccctt 420
 ccctgctcac acacaacgaa aacatggtgg ccaaagtgga tg 462

<210> 166

<211> 459

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(459)

<223> n = A,T,C or G

<400> 166
 ggcacgagag ggacctgtnt gaatggntcc actagggttn anntgnctct tacttttaac 60
 cantnaaaten gacctgccc tgaanangcg ggcntgacac annaanacga gaagacccta 120
 tggagcttta atttattaat gcanacagna cctaacaaac ccacangtcc taaactacca 180
 agcctgcatt aaaaatttcg gntggggcna cctcnnagca naacccaacc tccgagcaac 240
 tcatgctaag acttcaccag tcaaagctga actactatac tcaattgatc caataacttg 300
 accaacagan caagntaccc tagggataac ancacaatcc tattctagac cccttatnac 360
 caatangntt tacacctcna tngnggaacc aggacatccg atggggcagn cgttattaaa 420

gttngttgnt aacnataaag tctacgtgat ctgagttag

459

<210> 167
 <211> 464
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(464)
 <223> n = A,T,C or G

<400> 167
 gaattgggac caacganaan cntgcggntc ttnttttgcn tccanngccc agctnattgc 60
 tcagacacac atggggaagg tnaaggctcg gagtcaacng atttggtngt attgnagcgt 120
 ttggtcacca gngctgcttt taactctggn aaagtggata ttgttgatcat naatgacccc 180
 tncattgacc tnaactacat ggtttacatg ttccaatatg attccacca tggcaaattc 240
 catngcaccg tnaaggctga gaacgggaag cttgtnatca atggaaatcc catcaccatc 300
 tttcangaac ganatccntn caaaaatcaa anttgggggc gatgcttggc cncttgaagt 360
 accgttcaan gggaannncc ccactttggc cgntntttnc aancccacc caatttgggg 420
 aaaaaaaaag ggggnntttg gggggggcct tttannttt tttt 464

<210> 168
 <211> 462
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(462)
 <223> n = A,T,C or G

<400> 168
 ggcacgaggn nnaacctncg gggctggggc agcaogcett gngcaancct gcaactgcact 60
 gaagacccgg tgccggaagc cgngggcngc nacatgcagn aactgaacca gctgggcgcg 120
 cancagttct cagacctgac agaggtgctt ttacacttcc taactgatcc anantangtg 180
 gaaatattnt tngttnatnt catntgaatn atccancc aatcatanca nntttnattn 240
 cctcataanc nttgagaana gcnnccntnt gnttnanan ggtgctntga anangagtct 300
 cacangcaan caggtccaag cggatttntt aactntgggt cttantgang agaaagncac 360
 ttacttttct gaaancngga agcagaatgc tcccaccctt gctcgatggg ccatacgtca 420
 agactctgat gattaaccag ctttanatat ggacnggaaa tt 462

<210> 169
 <211> 460
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(460)
 <223> n = A,T,C or G

<400> 169
 ggcacgaggg acagcagacn agacagtcac agcagccttg acaaaacggt cctggaactc 60
 aagntcttnt ncncaaagga ggacagagca nacagcagag accatggant ctncctcggc 120
 ccctcccac agatgggtgca tcccctggca naggtcctg ctcacagcct cacttctaac 180
 cttctggaac ccgcccacca ctgccaagct cactattgaa tccacgcgt tcaatgnntc 240
 ntaggggaag gagngcttt ctactnttnc acaatctgan ccccttcttn tttggttact 300

ancatggctc tncatgtnaa aatactggna tggntaacct gtcaaattta taggnantnt	360
gctaattggg aaactnccnn tngtctaccc caggggnccc agattcctnn gttcncataa	420
cnattaattt aaccctaat gncaanccct tngttaaaga	460

<210> 170
 <211> 508
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(508)
 <223> n = A,T,C or G

<400> 170	
ggcacgaggg ggatttttag gtggtcnggt gtggtatcag gaataatgtg ggaggccaga	60
ttgaagtcca ggccaggaac aatggtaatt gtgggactta agaaagtgtg agtacagctg	120
aatgagccgg ggagcagaaa gtatatgcgt caggtatgag gaagaaaata gattttggaa	180
gttatgagaa atgtagagag tgagttgagc atagtttgtg attttgaggg cctctaacag	240
tattaaagca gcggcagcgg ctgcacacag acatgatggc taggctaaaa caggaaggtc	300
aagttgtttg gacagaaagg ctacaggggtg cagtcctggc tcttgtgtaa gaattctgac	360
cacactaacc atgcctagga aggaaaggag ttgttctttt gtaagggatt gaggtttggg	420
agattaatcg gacacgatca gcaggagag cacctgtgtt tttatgagaa ttatgctgag	480
ataggaataca gatgaggatg aaatttgg	508

<210> 171
 <211> 507
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(507)
 <223> n = A,T,C or G

<400> 171	
ggcacgagac cagccactag cgcagnctcg agcgatggcc tatgtccccg caccgggcta	60
ccagcccacc tacaaccoga cgtgcctta ctaccagccc atcccgggcg ggctcaacgt	120
gggaatgtct gtttacatcc aaggagtggc cagcgagcac atgaagcggg tcttcgtgaa	180
ctttgtggtt gggcaggatc cgggctcaga cgtcgccctc cacttcaatc cgcggtttga	240
cggctgggac aagtggtgtc tcaacacgtt gcaggcgagg aagtggggca gcgaggagag	300
gaagaggagc atgcccttca aaaagggtgc cgcctttgag ctggtcttca tagtcttggc	360
tgagcactac aagtggtgtg taaatggaaa tcccttctat gagtacgggc accggttcc	420
cctacagatg gtcaccacc tgcaagtgga tggggatctg caacttcaat caatcaactt	480
catcgagggc cagcccctcc ggcccca	507

<210> 172
 <211> 409
 <212> DNA
 <213> Homo sapien

<400> 172	
ggcacgagct ggagtgtctg ctgccacccc ctcgctcctt gcagaaatgt ctgtcaccta	60
cgatgactct gtgggagtgg aagtgtccag cgacagcttc tgggaggttg ggaactacaa	120
acggactgtg aagcggattg acgatggcca ccgcctgtgt ggtgacctca tgaactgtct	180
gcatgagcgg gcacgcatcg agaaggcgta tgcacagcag ctactgagt gggcccgacg	240
ctggaggcag ctggtagaga agggaccaca gtatgggacc gtggagaagg cctggatagc	300
tgtcatgtct gaagcagaga gggtagtgta actgcacctg gaagtgaagg catcactgat	360

gaatgaagac ttgagaaga tcaagaactg gcagaaggaa gcctttcac 409

<210> 173
 <211> 409
 <212> DNA
 <213> Homo sapien

<400> 173
 ggcacgagg cagctagagg aagagtccaa ggccaagaac gcaactggccc acgccctgca 60
 gtcagctcgc catgactgtg acctgctgcg ggaacagtat gaagaggagc aggaagccaa 120
 ggctgagctg cagagggcca tgtccaaggc caacacgcag gtagccagc ggaggacgaa 180
 atatgagacg gatgccatcc agcgcacaga ggagctggaa gagggccaaga agaagctggc 240
 tcagcgtctg caggatgctg aggaacatgt agaagctgtg aattccaaat gcgcttctct 300
 tgaaaagacg aagcagcgac ttcagaatga agtggaggac ctcatgattg acgtggagag 360
 gtctaattgt gcctgcgctg cgcttgataa gaagcagagg aactttgac 409

<210> 174
 <211> 407
 <212> DNA
 <213> Homo sapien

<400> 174
 ggcacgagcc ggggcggggc gcggcgctcc ggctcgaggc attcggagct gcgggagccg 60
 ggctggcagg agcaggatgg cggcggcgcc ggctgcaggc gaggcgcgcc gggtgctggt 120
 gtacggcgcc aggggcgctc tgggttctcg atgcgtgcag gcttttcggg cccgcaactg 180
 gtgggttgcc agcgttgatg tgggtggagaa tgaagaggcc agcgttagca tcattgttaa 240
 aatgacagac tcgttctactg agcaggctga ccaggtgact gctgaggttg gaaagctctt 300
 ggggtgaagag aaggtggatg caattctttg cgcttctgga ggatgggccg ggggcaatgc 360
 caaatccaag tctctcttta agaactgtga cctgatgtgg aagcaga 407

<210> 175
 <211> 407
 <212> DNA
 <213> Homo sapien

<400> 175
 ggcacgagct tgcccgtcgg tcgctagctc gctcgggtgcg cgtcgtcccg ctccatggcg 60
 ctcttcgtgc ggctgctggc tctcgcctg gctctggccc tgggcccgc cgcgaccctg 120
 gcgggtccc ccaagtcgcc ctaccagctg gtgctgcagc acagcaggct ccggggccgc 180
 cagcacggcc ccaacgtgtg tgcgtgcag aaggttattg gcaactaatg gaagtacttc 240
 accaactgca agcagtggta ccaaaggaaa atctgtggca aatcaacagt catcagctac 300
 gagtgtgtc ctggatatga aaaggtccct ggggagaagg gctgtccagc agccctacca 360
 ctctcaaacc ttacagagac cctgggagtc gttggatcca ccaccac 407

<210> 176
 <211> 409
 <212> DNA
 <213> Homo sapien

<400> 176
 ggcacgagt gtgcaaaaac gggaccatgc cctcctggag gagcagagca agcagcagtc 60
 caacgagcac ctgcgcgcc agttcgccag ccaggccaat gttgtggggc cctggatcca 120
 gaccaagatg gaggagatcg ggcgcatctc cattgagatg aacgggaccc tggaggacca 180
 gctgagccac ctgaagcagt atgaacgcag catcgtggac tacaagccca acctggacct 240
 gctggagcag cagcaccagc tcatccagga ggccctcatc ttcgacaaca agcacacca 300
 ctataccatg gagcacatcc gcgtgggctg ggagcagctg ctaccacca ttgcccgcac 360
 catcaacgag gtggagaacc agatcctcac ccgcgacgcc aagggcatc 409

<210> 177
 <211> 408
 <212> DNA
 <213> Homo sapien

<400> 177
 ggcacgaggt ccaggtaact gcaaaaacaa tggctcagca tgaagaactg atgaagaaaa 60
 ctgaaacaat gaatgtagtt atggagacca ataaaatgct aagagaagag aaggagcagg 120
 tttcaaaaat ggcacagtc cgtcagcatt tggagaagaa aacacagaaa gcagaatcac 180
 agttgttggg gtgtaaagca tcttgggagg aaagagagag aatgttaaag gatgaagttt 240
 ccaaatgtgt atgtcgctgt gaagatctgg agaaacaaaa cagattactt catgatcaga 300
 tcgaaaaatt aagtgacaag gtctgttgcct ctgtgaagga aggtgtacaa ggtccactga 360
 atgtatctct cagtgaagaa ggaaaatctc aagaacaaat tttggaaa 408

<210> 178
 <211> 92
 <212> DNA
 <213> Homo sapien

<400> 178
 ggcacgagaa gaaattaaga gctaaagaca aggagaatga aaatatgggt gcaaagctga 60
 acaaaaaagt taaagagcta gaagaggaga tg 92

<210> 179
 <211> 411
 <212> DNA
 <213> Homo sapien

<400> 179
 ggcacgagga gacacgccac ctataaccaca gttctcagaa tgaattagct aagttggaat 60
 cagaacttaa gagtctcaaa gaccagttga ctgatttaag taactcttta gaaaaatgta 120
 aggaacaaaa aggaaacttg gaagggatca taaggcagca agaggctgat attcaaaatt 180
 ctaagttcag ttatgaacaa ctggagactg atcttcaggc ctccagagaa ctgaccagta 240
 ggctgcatga agaaataaat atgaaagagc aaaagattat aagcctgctt tctggcaagg 300
 aagaggcaat ccaagtagct attgctgaac tgcgtcagca acatgataaa gaaattaaag 360
 agctggaaaa cctgctgtcc caggaggaag aggagaatat tgttttagaa g 411

<210> 180
 <211> 411
 <212> DNA
 <213> Homo sapien

<400> 180
 ggcacgaggt tgttcggagc gggcgagcgg agttagcagg gctttactgc agagcgcgcc 60
 gggcactcca gcgaccgtgg ggatcagcgt aggtgagctg tggccttttg cgaggtgctg 120
 cagccatagc tacgtgcgtt cgctacgagg attgagcgtc tccacccatc ttctgtgctt 180
 caccatctac ataatgaatc ccagtatgaa gcagaaacaa gaagaaatca aagagaatat 240
 aaagactagt tctgtcccaa gaagaactct gaagatgatt cagccttctg catctggatc 300
 tcttgttggg agagaaaatg agctgtccgc aggttgttcc aaaaggaaac atcggaatga 360
 ccacttaaca tctacaactt ccagccctgg ggttattgtc ccagaatcta g 411

<210> 181
 <211> 411
 <212> DNA
 <213> Homo sapien

<400> 181
 ggcacgagggc gggacagggc gaagcggcct gcgcccacgg agcgcgcgac actgcccgga 60

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agggaaccgcc acccttgccc cctcagctgc cactcgtga tttccagcgg cctccgcgcg 120
cgacagatgc cctcggccac cagccacagc gggagcgcga gcaagtgcgc cggaccgcca 180
ccgccgtcgg gttcctccgg gagtgaggcg gccgcgggag ccggggccgc cgcgccgggt 240
tctcagcacc ccgcaaccgg caccggcgct gtccagaccg aggccatgaa gcagattctc 300
ggggtgatcg acaagaaact tcggaacctg gagaagaaaa agggtaagct tgatgattac 360
caggaacgaa tgaacaaagg ggaaaggctt aatcaagatc agctggatgc c 411

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```

<210> 182
<211> 411
<212> DNA
<213> Homo sapien

```

```

<400> 182
ggcacgagcc gacatggagc tgttcctcgc gggcgcgcgg gtgctgggtca ccggggcagg 60
caaaggtata gggcgcggca cgggccaggc gctgcacgcg acgggcgcgc gggtggtggc 120
tgtgagccgg actcaggcgg atcttgacag ccttgccgcg gagtgcgcgg ggatagaacc 180
cgtgtgcgtg gacctgggtg actgggaggc caccgagcgg gcgctgggca gcgtgggccc 240
cgtggacctg ctggtgaaca acgccgctgt cgccctgctg cagcccttcc tggaggtcac 300
caaggaggcc tttgacagat cctttgaggt gaacctgcgt gcggtcatcc aggtgtcgca 360
gattgtggcc aggggcttaa tagcccgggg agtcccaggg gccatcgtga a 411

```

```

<210> 183
<211> 409
<212> DNA
<213> Homo sapien

```

```

<400> 183
ggcacgagcc tacactctgg ccagagatac cacagtcaaa cctggagcca aaaaggacac 60
aaaggactct cgacccaaac tgcccagac cctctccaga ggttgggggtg accaactcat 120
ctggactcag acatatgaag aagctctata taaatccaag acaagcaaca aacccttgat 180
gattattcat cacttggtat agtgcccaca cagtcaagct ttaaagaaag tgtttgctga 240
aaataaagaa atccagaaat tggcagagca gtttgtctc ctcaatctgg tttatgaaac 300
aactgacaaa cacctttctc ctgatggcca gtatgtcccc aggattatgt ttgttgacct 360
atctctgaca gttagagccg atatcactgg aagatattca aatcgtctc 409

```

```

<210> 184
<211> 410
<212> DNA
<213> Homo sapien

```

```

<400> 184
ggcacgaggt cattccagca ccaacaggat ccaagccaga ttgattgggc tgcattggcc 60
caagcttgga ttgcccaaag agaagcttca ggacagcaaa gcatggtaga acaaccacca 120
ggaatgatgc caaatggaca agatatgtct acaatggaat ctgggtccaaa caatcatggg 180
aatttccaag gggattcaaa cttcaacaga atgtggcaac cagaatgggg aatgcatcag 240
caacccccac accccctcc agatcagcca tggatgccac caacaccagg cccaatggac 300
attgttcctc cttctgaaga cagcaacagt caggacagtg gggaatttgc ccctgacaac 360
aggcatatat ttaaccagaa caatcacaac tttggtggac caccgataa 410

```

```

<210> 185
<211> 411
<212> DNA
<213> Homo sapien

```

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<220>
<221> misc_feature
<222> (1)...(411)
<223> n = A,T,C or G

```

<400> 185

ggcagagca	cagatgtagt	tttctctgog	cgtgtgogtt	ttccctctctc	ccccgcctct	60
agggctccag	gccaccatgg	cgtattaggg	gcagcagtgc	ctgcggcagc	attggccttt	120
gcagcggcgg	cagcagcacc	aggctctgca	gcggcaaccc	ccagcggctt	aagccatggc	180
gcttctcagc	gcattcagca	gcagcgttgc	tgtaaccgac	aaagacacct	tcgaattaag	240
cacattcctc	gattccagca	aagcaccgca	acatgaccga	aatgagcttc	ctgagcagcg	300
aggtgttggg	gggggacttg	atgtccccct	tcgacccgtc	gggtttgggg	gctgaagaaa	360
gcctangtct	cttagatgat	tacctggagg	tggccaagca	cttcaaacct	c	411

<210> 186

<211> 410

<212> DNA

<213> Homo sapien

<400> 186

ggcagagct	tctagtcccc	ccatggccgc	tctcaccgag	gacccccagt	tccagaagct	60
gcagcaatgg	taccgcgagc	accgctccga	gctgaacctg	cgccgcctct	tcgatgccaa	120
caaggaccgc	ttcaaccact	tcagcttgac	cctcaacacc	aaccatgggc	atatcctggt	180
ggattactcc	aagaacctgg	tgacggagga	cgtgatgcgg	atgctgggtg	acttgccaa	240
gtccaggggc	gtggaggccg	cccgggagcg	gatgttcaat	ggtgagaaga	tcaactacac	300
cgagggtcga	gccgtgctgc	acgtggctct	gcggaaccgg	tcaaacacac	ccatcctggt	360
agacggcaag	gatgtgatgc	cagaggtcaa	caaggttctg	gacaagatga		410

<210> 187

<211> 506

<212> DNA

<213> Homo sapien

<400> 187

ctttcgtggc	tcaactccctt	tcctctgctg	ccgctcggtc	acgcttgtgc	ccgaaggagg	60
aaacagtgc	agacctggag	actgcagttc	tctatccttc	acacagctct	ttcaccatgc	120
ctggatcact	tcctttgaat	gcagaagctt	gctggccaaa	agatgtggga	attgttgccc	180
ttgagatcta	ttttccttct	caatatgttg	atcaagcaga	ggtggaaaaa	tatgatggtg	240
tagatgctgg	aaagtatacc	attggcttgg	gccaggccaa	gatgggcttc	tgacagata	300
gagaagatat	taactctctt	tgcatgactg	tggttcagaa	tcttatggag	agaaataacc	360
tttccatga	ttgcattggg	cggctggaag	ttggaacaga	gacaatcatc	gacaaatcaa	420
agtctgtgaa	gactaatttg	atgcagctgt	ttgaagagtc	tggaataaca	gatatagaag	480
gaatcgacac	aactaatgca	tgctat				506

<210> 188

<211> 506

<212> DNA

<213> Homo sapien

<400> 188

gccacagagg	cggcggagag	atggccttca	gcggttccca	ggctccctac	ctgagtccag	60
ctgtcccttt	ttctgggact	attcaaggag	gtctccagga	cggacttcag	atcactgtca	120
atgggaccgt	tctcagctcc	agtggaacca	ggtttgctgt	gaactttcag	actggcttca	180
gtggaaatga	cattgccttc	cacttcaacc	ctcggtttga	agatggaggg	tacgtggtgt	240
gcaacacgag	gcagaacgga	agctgggggc	ccgaggagag	gaagacacac	atgcctttcc	300
agaaggggat	gccctttgac	ctctgcttcc	tggtgcagag	ctcagatttc	aaggtgatgg	360
tgaacgggat	cctcttcgtg	cagtacttcc	accgcgtgcc	cttccaccgt	gtggacacca	420
tctccgtcaa	tggtctctgtg	cagctgtcct	acatcagctt	ccagcctccc	ggcgtgtggc	480
ctgccaaacc	ggctcccatt	acccag				506

<210> 189

<211> 399

<212> DNA

<213> Homo sapien

<400> 189

ctggacagga	gaagagcctg	gctgctgaag	gcagggtga	cacgaccacg	ggcagcattg	60
ctggagcccc	agaggatgaa	agatcgaga	gcacagcccc	ccaggcacca	gagtgcctcg	120
accctgccgg	accggctggg	ctcgtgaggc	cgacatctgg	cctttcccag	ggcccaggaa	180
aggaaacctt	ggaaagtgct	ctaatacgctc	tagactctga	aaaacccaag	aaacttcgct	240
tccacccaaa	gcagctgtac	ttctctgcc	ggcagggtga	gctgcagaag	gtgcttctca	300
tgctggttga	tgggaattgat	cccaacttca	aaatggagca	ccaaagtaag	cgttccccat	360
tacatgctgc	tgcgagggt	ggccacgtgg	acatctgcc			399

<210> 190

<211> 401

<212> DNA

<213> Homo sapien

<400> 190

cggcgacggt	ggtggtgact	gagcggagcc	cggtgacagg	atgttggtgt	tggtattagg	60
agatctgcac	atccacacc	ggtgcaacag	tttgccagct	aaattcaaaa	aactcctggt	120
gccaggaaaa	attcagcaca	ttctctgcac	aggaaacctt	tgcaccaaag	agagttatga	180
ctatctcaag	actctggctg	gtgatgttca	tattgtgaga	ggagacttcg	atgagaatct	240
gaattatcca	gaacagaaa	ttgtgactgt	tggacagttc	aaaattggtc	tgatccatgg	300
acatcaagtt	attccatggg	gagatatggc	cagcttagcc	ctgttgca	ggcaatttga	360
tgtggacatt	cttatctcgg	gacacacaca	caaatttgaa	g		401

<210> 191

<211> 406

<212> DNA

<213> Homo sapien

<400> 191

tggcagccta	agccgtggga	gggttccagt	cgagaatggg	aagatgaaag	acttcagatg	60
gaacagaaat	aatgccttt	tttgacaaac	gcagcagtg	gtgcctctag	cttgcaagag	120
cgttactccc	cttcatagct	ttaaaaggtt	ttcgactgc	gtgcagttag	agtagctaaa	180
tcttgtgtga	cgctccacaa	acacttgtaa	gaattttgca	gagaaagata	accgttgcca	240
cccaatgccc	cccacaggca	ttctactccc	cagtacctct	taggggtggga	gaaatggtga	300
agagttgttc	ctacaacttg	ctaacctagt	ggacagggtga	gtagattagc	atcatccgga	360
tagatgtgaa	gaggacggct	gtttggataa	taattaagga	taaaat		406

<210> 192

<211> 316

<212> DNA

<213> Homo sapien

<400> 192

cccggggagg	ccctggtcat	aaaactttta	attttactag	tgttacttaa	tgtatattct	60
aaaaagagaa	tgcagtaact	aatgccctaa	atggttgatc	tctgtttgtc	attacttttt	120
caaaattatt	tttttctgta	aagtataata	tataaaactt	cttgcttaaa	ttgaatttct	180
atattagtgg	ttaattgcag	tttattaaag	ggatcattat	cagtaatttc	atagcaactg	240
ttctagtgtt	ttgtgttttt	aaaacagaat	taggaatttg	agatatctga	ttatattttt	300
catatgaatc	acagac					316

<210> 193

<211> 146

<212> DNA

<213> Homo sapien

<400> 193
 gaaacatgga ctgcccctta aattttgact gtcctaaaaa cctattttctg atttataata 60
 tgctgcctga taaagtgaca ctagatgtac cagctgagtg tttaatcttc ccatcacaga 120
 tcagatttga gcattaacag gtattt 146

<210> 194
 <211> 405
 <212> DNA
 <213> Homo sapien

<400> 194
 cggatgtgct cactgacatt ctactccaag tcggagatgc agatccactc caagtcacac 60
 accgagacca agcccacaa gtgccacat tgctccaaga ccttcgcaa cagctcctac 120
 ctggcccagc acatccgtat acactcaggg gctaagccct acagttgtaa cttctgtgag 180
 aaatccttcc gccagctctc ccaccttcag cagcacaccc gaatccacac tggatgata 240
 ccatacaaat gtgcacaccc aggctgtgag aaagccttca cacaactctc caatctgcag 300
 tcccacagac ggcaacacaa caaagataaa cccttcaagt gccacaactg tcatcgggag 360
 tacacggatg cagcctcact agaggtgcac ctgtctacgc acaca 405

<210> 195
 <211> 421
 <212> DNA
 <213> Homo sapien

<400> 195
 agaattcggc acgagctact ccttgccgcg tcggcactccg cagcctttaa ggttcgcgcg 60
 ggggccaggc aagagtttagc catgaagagc ctcaagtccc gcctgaggag gcaggacgtg 120
 cccggccccg cgtcgtctgg cgccgccgccc gccagcgcgc atgcagcaga ttggaataaa 180
 tatgatgacc gatttgataa agcagcagaa aggggggatg tagaaaaagt gacgtcaatc 240
 cttgctaataa aggggggtcaa tccaggcaaa ctagatgtgg aaggcagatc tgtcttccat 300
 gttgtgacct caaaggggaa tcttgagtgt ttgaatgcc aacctataca tggagtgtgat 360
 attacaacca gtgacactgc agggagaaat gctcttcacc tggctgctaa gtatggacat 420
 g 421

<210> 196
 <211> 476
 <212> DNA
 <213> Homo sapien

<400> 196
 agaattgata tatagattta atgcaatgcc tactaaaatc ccagtacgat tttttacagg 60
 catagacaat agacatagcc aaaacttatt ctaaaataca tatgaagatg cacaggccct 120
 agttatacaa tcttgacaaa gaagaataaa gtgggaagaa tctattttgat tttaaggctt 180
 accatgtaac tacagtcac aagagagtgt ggtatcggca gacggtcaga catacagatc 240
 aatggaatgt aacagaggac ccagaaatag gccacacag atatgctcaa tggatatttg 300
 acaagcgtgc aaaacaattc aatggaagaa taagctttca aaaaaatggc gttggagcaa 360
 cgggacatcc ataggaaaaa atgaacccat acctaaccata taaaccttat ataaaaataa 420
 acacaaaatg aatcataggc ttaaatgtaa gctataaaac ttttagagaa aaacac 476

<210> 197
 <211> 503
 <212> DNA
 <213> Homo sapien

<400> 197
 tagccctcgg tgaagcccca gaccacagct atgagtccct tcgtgtgacg tctgcgcaga 60
 aacatgttct gcatgtccag ctcaaccggc ccaacaagag gaatgccatg aacaaggctt 120
 tctggagaga gatggttagag tgcttcaaca agatttcgag agacgctgac tgcggggcgg 180

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tggtgatctc tgggtgcagga aaaatgttca ctgcaggtat tgacctgatg gacatggctt 240
cggacatcct gcagcccaaa ggagatgatg tggcccggat cagctggtac ctccgtgaca 300
tcatcactcg ataccaggag accttcaacg tcatcgagag gtgcccgaag cccgtgattg 360
ctgccgtcca tgggggctgc attggcggag gtgtggacct tgtcaccgcc tgtgacatcc 420
ggtactgtgc ccaggatgct ttcttccagg tgaaggaggt ggacgtgggt ttggctgccc 480
atgtagaac actgcagcgc ctg 503

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<210> 198
 <211> 168
 <212> PRT
 <213> Homo sapien

<400> 198

Phe	Val	Ala	His	Ser	Leu	Ser	Ser	Ala	Ala	Ala	Arg	Ser	Arg	Leu	Cys
1				5				10						15	
Pro	Lys	Glu	Glu	Thr	Val	Thr	Asp	Leu	Glu	Thr	Ala	Val	Leu	Tyr	Pro
			20					25					30		
Ser	His	Ser	Ser	Phe	Thr	Met	Pro	Gly	Ser	Leu	Pro	Leu	Asn	Ala	Glu
			35				40					45			
Ala	Cys	Trp	Pro	Lys	Asp	Val	Gly	Ile	Val	Ala	Leu	Glu	Ile	Tyr	Phe
	50					55					60				
Pro	Ser	Gln	Tyr	Val	Asp	Gln	Ala	Glu	Leu	Glu	Lys	Tyr	Asp	Gly	Val
65					70					75					80
Asp	Ala	Gly	Lys	Tyr	Thr	Ile	Gly	Leu	Gly	Gln	Ala	Lys	Met	Gly	Phe
				85				90						95	
Cys	Thr	Asp	Arg	Glu	Asp	Ile	Asn	Ser	Leu	Cys	Met	Thr	Val	Val	Gln
			100					105					110		
Asn	Leu	Met	Glu	Arg	Asn	Asn	Leu	Ser	Tyr	Asp	Cys	Ile	Gly	Arg	Leu
		115					120					125			
Glu	Val	Gly	Thr	Glu	Thr	Ile	Ile	Asp	Lys	Ser	Lys	Ser	Val	Lys	Thr
	130					135					140				
Asn	Leu	Met	Gln	Leu	Phe	Glu	Glu	Ser	Gly	Asn	Thr	Asp	Ile	Glu	Gly
145					150					155					160
Ile	Asp	Thr	Thr	Asn	Ala	Cys	Tyr								
					165										

<210> 199
 <211> 168
 <212> PRT
 <213> Homo sapien

<400> 199

His	Arg	Gly	Gly	Gly	Glu	Met	Ala	Phe	Ser	Gly	Ser	Gln	Ala	Pro	Tyr
1				5				10						15	
Leu	Ser	Pro	Ala	Val	Pro	Phe	Ser	Gly	Thr	Ile	Gln	Gly	Gly	Leu	Gln
			20					25					30		
Asp	Gly	Leu	Gln	Ile	Thr	Val	Asn	Gly	Thr	Val	Leu	Ser	Ser	Ser	Gly
			35				40					45			
Thr	Arg	Phe	Ala	Val	Asn	Phe	Gln	Thr	Gly	Phe	Ser	Gly	Asn	Asp	Ile
	50					55					60				
Ala	Phe	His	Phe	Asn	Pro	Arg	Phe	Glu	Asp	Gly	Gly	Tyr	Val	Val	Cys
65				70						75					80
Asn	Thr	Arg	Gln	Asn	Gly	Ser	Trp	Gly	Pro	Glu	Glu	Arg	Lys	Thr	His
			85					90						95	
Met	Pro	Phe	Gln	Lys	Gly	Met	Pro	Phe	Asp	Leu	Cys	Phe	Leu	Val	Gln
			100				105						110		
Ser	Ser	Asp	Phe	Lys	Val	Met	Val	Asn	Gly	Ile	Leu	Phe	Val	Gln	Tyr
			115				120						125		

60

Phe His Arg Val Pro Phe His Arg Val Asp Thr Ile Ser Val Asn Gly
 130 135 140
 Ser Val Gln Leu Ser Tyr Ile Ser Phe Gln Pro Pro Gly Val Trp Pro
 145 150 155 160
 Ala Asn Pro Ala Pro Ile Thr Gln
 165

<210> 200
 <211> 132
 <212> PRT
 <213> Homo sapien

<400> 200
 Gly Gln Glu Lys Ser Leu Ala Ala Glu Gly Arg Ala Asp Thr Thr Thr
 1 5 10 15
 Gly Ser Ile Ala Gly Ala Pro Glu Asp Glu Arg Ser Gln Ser Thr Ala
 20 25 30
 Pro Gln Ala Pro Glu Cys Phe Asp Pro Ala Gly Pro Ala Gly Leu Val
 35 40 45
 Arg Pro Thr Ser Gly Leu Ser Gln Gly Pro Gly Lys Glu Thr Leu Glu
 50 55 60
 Ser Ala Leu Ile Ala Leu Asp Ser Glu Lys Pro Lys Lys Leu Arg Phe
 65 70 75 80
 His Pro Lys Gln Leu Tyr Phe Ser Ala Arg Gln Gly Glu Leu Gln Lys
 85 90 95
 Val Leu Leu Met Leu Val Asp Gly Ile Asp Pro Asn Phe Lys Met Glu
 100 105 110
 His Gln Ser Lys Arg Ser Pro Leu His Ala Ala Ala Glu Ala Gly His
 115 120 125
 Val Asp Ile Cys
 130

<210> 201
 <211> 120
 <212> PRT
 <213> Homo sapien

<400> 201
 Met Leu Val Leu Val Leu Gly Asp Leu His Ile Pro His Arg Cys Asn
 1 5 10 15
 Ser Leu Pro Ala Lys Phe Lys Lys Leu Leu Val Pro Gly Lys Ile Gln
 20 25 30
 His Ile Leu Cys Thr Gly Asn Leu Cys Thr Lys Glu Ser Tyr Asp Tyr
 35 40 45
 Leu Lys Thr Leu Ala Gly Asp Val His Ile Val Arg Gly Asp Phe Asp
 50 55 60
 Glu Asn Leu Asn Tyr Pro Glu Gln Lys Val Val Thr Val Gly Gln Phe
 65 70 75 80
 Lys Ile Gly Leu Ile His Gly His Gln Val Ile Pro Trp Gly Asp Met
 85 90 95
 Ala Ser Leu Ala Leu Leu Gln Arg Gln Phe Asp Val Asp Ile Leu Ile
 100 105 110
 Ser Gly His Thr His Lys Phe Glu
 115 120

<210> 202
 <211> 135
 <212> PRT

<213> Homo sapien .

<400> 202

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Arg Met Cys Ser Leu Thr Phe Tyr Ser Lys Ser Glu Met Gln Ile His
 1          5          10          15
Ser Lys Ser His Thr Glu Thr Lys Pro His Lys Cys Pro His Cys Ser
          20          25          30
Lys Thr Phe Ala Asn Ser Ser Tyr Leu Ala Gln His Ile Arg Ile His
          35          40          45
Ser Gly Ala Lys Pro Tyr Ser Cys Asn Phe Cys Glu Lys Ser Phe Arg
          50          55          60
Gln Leu Ser His Leu Gln Gln His Thr Arg Ile His Thr Gly Asp Arg
65          70          75          80
Pro Tyr Lys Cys Ala His Pro Gly Cys Glu Lys Ala Phe Thr Gln Leu
          85          90          95
Ser Asn Leu Gln Ser His Arg Arg Gln His Asn Lys Asp Lys Pro Phe
          100          105          110
Lys Cys His Asn Cys His Arg Ala Tyr Thr Asp Ala Ala Ser Leu Glu
          115          120          125
Val His Leu Ser Thr His Thr
          130          135

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<210> 203

<211> 135

<212> PRT

<213> Homo sapien

<400> 203

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Leu Leu Leu Ala Arg Trp His Ser Ala Ala Phe Lys Val Arg Ala Gly
 1          5          10          15
Ala Arg Gln Glu Leu Ala Met Lys Ser Leu Lys Ser Arg Leu Arg Arg
          20          25          30
Gln Asp Val Pro Gly Pro Ala Ser Ser Gly Ala Ala Ala Ser Ala
          35          40          45
His Ala Ala Asp Trp Asn Lys Tyr Asp Asp Arg Leu Met Lys Ala Ala
          50          55          60
Glu Arg Gly Asp Val Glu Lys Val Thr Ser Ile Leu Ala Lys Lys Gly
65          70          75          80
Val Asn Pro Gly Lys Leu Asp Val Glu Gly Arg Ser Val Phe His Val
          85          90          95
Val Thr Ser Lys Gly Asn Leu Glu Cys Leu Asn Ala Ile Leu Ile His
          100          105          110
Gly Val Asp Ile Thr Thr Ser Asp Thr Ala Gly Arg Asn Ala Leu His
          115          120          125
Leu Ala Ala Lys Tyr Gly His
          130          135

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<210> 204

<211> 167

<212> PRT

<213> Homo sapien

<400> 204

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Ala Leu Gly Glu Ala Pro Asp His Ser Tyr Glu Ser Leu Arg Val Thr
 1          5          10          15
Ser Ala Gln Lys His Val Leu His Val Gln Leu Asn Arg Pro Asn Lys
          20          25          30
Arg Asn Ala Met Asn Lys Val Phe Trp Arg Glu Met Val Glu Cys Phe

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35	40	45
Asn Lys Ile Ser Arg Asp	Ala Asp Cys Arg Ala	Val Val Ile Ser Gly
50	55	60
Ala Gly Lys Met Phe Thr	Ala Gly Ile Asp Leu	Met Asp Met Ala Ser
65	70	75
Asp Ile Leu Gln Pro Lys	Gly Asp Asp Val Ala	Arg Ile Ser Trp Tyr
85	90	95
Leu Arg Asp Ile Ile Thr	Arg Tyr Gln Glu Thr	Phe Asn Val Ile Glu
100	105	110
Arg Cys Pro Lys Pro Val	Ile Ala Val His Gly	Gly Cys Ile Gly
115	120	125
Gly Gly Val Asp Leu Val	Thr Ala Cys Asp Ile	Arg Tyr Cys Ala Gln
130	135	140
Asp Ala Phe Phe Gln Val	Lys Glu Val Asp Val	Gly Leu Ala Ala His
145	150	155
Val Gly Thr Leu Gln Arg	Leu	
165		

<210> 205
 <211> 381
 <212> DNA
 <213> Homo sapien

<400> 205

aaatttggga tcatcgccctg ttctgaaaac tagatgcacc aaccgtatca ttatttgttt	60
gaggaaaaaa agaaatctgc attttaattc atgttggtca aagtcgaatt actatctatt	120
tatcttatat cgtagatctg ataaccctat ctaaaagaaa gtcacacgct aaatgtattc	180
ttacatagtg cttgtatcgt tgcatttggt ttaatttggtg gaaaagtatt gtatctaact	240
tgtattactt tggtagtttc atctttatgt attattgata tttgtaattt tctcaactat	300
aacaatgtag ttacgctaca acttgccctaa aacattcaaa cttgttttct tttttctggt	360
gttttctttg ttaattcatt t	381

<210> 206
 <211> 514
 <212> DNA
 <213> Homo sapien

<400> 206

aaaagtaaat tgcataaaat tacatccaat ttctttctct aaaccaacat attcttcacc	60
ttcacaaagc aaacacatgg tgcactgaaa ccgaggtggt accagcttta catactgttc	120
tgccatttgt ggggggtgca accacaacat aagtcagaaa aaaagctatc cagcttttcg	180
tggaatctgg tgaagtttac acttagcgat aagcctctaa gcctgaactt agcagggtca	240
gcaaaaacttt atttatttcc taactcctat tatttttagaa tggttttcaa aataatactg	300
caagttccta attgaaatac aaaacagAAC aaaaagctgt gagaaatctt tttttttctt	360
tggctcctta aagacttgga ataatttata ttagtggtgc atacatttta ccttctacat	420
tttgatgtac ttgctcttga aagcactaga acaaattaat tgaaataaaa cctctctgaa	480
accatttgaa tctttgatcc taccatagag tttt	514

<210> 207
 <211> 522
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(522)
 <223> n = A,T,C or G

<400> 207
 caagcttttg gtgcatagca gccngcctgg aagcattctg agtgctctgt ctgccctggt 60
 gggtttcatt atcctgtctg tcaaacaggc caccttaaat cctgcctcac tgcagtgtga 120
 gttggacaaa aataatatac caacaagaag ttatgtttct tacttttata atgattcaact 180
 ttataccacg gactgctata cagccaaagc cagtctggct ggaactctct ctctgatgct 240
 gatttgcaact ctgctggaat tctgcctagc tgtgctcact gctgtgctgc ggtggaaaca 300
 ggcttactct gacttccctg ggagtgtact tttcctgcct cacagttaca ttggtaattc 360
 tggcatgtcc tcaaaaatga ctcatgactg tggatatgaa gaactattga cttcttaaga 420
 aaaaaggag aatatattaat cagaaagttg attcctatga taatatggaa aagttaacca 480
 ttatagaaaa gcaaagcttg agtttcctaa atgtaagctt tt 522

<210> 208
 <211> 278
 <212> DNA
 <213> Homo sapien

<400> 208
 aaaatgcact accccttttt tccaacacgg agcttaaaac aaattaatga aagagtggaa 60
 aattcaaaat aagggcaaga gataaggttt tttttttttt tcctttaaga tagactcagg 120
 ataggtagat agctttcact gatgtagatg tggaataaat tattacttca ggaaaaaaat 180
 tcccaaacat cttatgaaaa agtatacaac tctacttcaa aatatgctat ttactcactg 240
 ccaaagacag ttttatttga aatcttggtt ctgtattt 278

<210> 209
 <211> 234
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(234)
 <223> n = A,T,C or G

<400> 209
 cctcccaaat ttagcaggtg ctgggnagga ccctagggag tggtttatgg gggctagctg 60
 gtgaaactgc cctttccttt ctgttctatg agtgtgatgg tgtttgagaa aatgtggggc 120
 tatggttcag gcgcacttca catgtgcaaa gatggagaaa gcactcacct acacgtttag 180
 gctcagaatg ttgattgaaa cattttgaat gatcaaaaat aaaatgttat tttt 234

<210> 210
 <211> 186
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(186)
 <223> n = A,T,C or G

<400> 210
 aaaataactg atggcaaaat aaaaanattta catcacatca tactgtgtaa acatgtaagg 60
 tctctgtaca aagaaatata catgcaaaat aatgtaaaaa tttaactgaa ataataaaag 120
 aaacaatata caaataaaaa ttatgaggtt acgaatacac atccagtttc gaatccaatt 180
 tctttt 186

<210> 211
 <211> 403
 <212> DNA

<213> Homo sapien

<400> 211

aaaaattggt	aaaatatttta	agtacaaaat	aagtagcttc	cagcgagggt	tttataccat	60
agtaagagca	cacaatagat	attactagca	cacatgggtt	atctgggagc	gctatagcta	120
caataaacct	aattatggaa	cagaaatttg	cattctgttt	ccagtgtctac	tacactccta	180
ctttctcaaa	agtctgctct	attaatatca	gctcagtgtca	gtttactatg	aatagtttat	240
gtctgtgatg	caaagcatta	attgttctct	ttttacaaac	atacattttt	ttcataagga	300
agactggggg	aaaaccaga	aacatacaga	gaaaaggaaa	gcattcatcaa	atatatgtta	360
aaaattaaga	tgatgtttac	tactagtcac	cctacaacaa	ttt		403

<210> 212

<211> 345

<212> DNA

<213> Homo sapien

<400> 212

cctctttatg	agttcattac	tgctgttcag	tctcggcaca	cagacacccc	tgtgcaccgg	60
ggtgtacttt	ctactctgat	cgctgggcct	gtgggttgaga	taagtcacca	gctacggaag	120
gtttctgacg	tagaagagct	taccctcca	gagcatcttt	ctgatcttcc	accattttca	180
aggtgtttta	taggaataat	aataaagtct	tccaatgtgg	tcaggtcatt	tttgatgaa	240
ttaaaggcat	gtgtggcttc	taatgatatt	gaaggcattg	tgtgcctcac	ggctgctgtg	300
catattatcc	tggttattaa	tcaggtataa	cataaaagct	caaaa		345

<210> 213

<211> 318

<212> DNA

<213> Homo sapien

<400> 213

aaaatgtttt	attattttga	aaataatgtt	gtaattcatg	ccaggggactg	acaaaagact	60
tgagacagga	tggttattct	tgtcagctaa	ggtcacattg	tgcccttttg	accttttctt	120
cctggactat	tgaaatcaag	cttattggat	taagtgatat	ttctatagcg	attgaaaggg	180
caatagttaa	agtaatgagc	atgatgagag	tttctgttaa	tcattgtatta	aaactgattt	240
ttagctttac	aaatatgtca	gtttgcagtt	atgcagaatc	caaagtaaat	gtcctgctag	300
ctagttaagg	attgtttt					318

<210> 214

<211> 462

<212> DNA

<213> Homo sapien

<400> 214

aaacacatct	ggttctggca	gcaagttata	ttatgcattt	agagcaatag	gtgccctgaa	60
agttattgtt	gctttttttg	tttttttttt	cagtttgtgc	gtgtcacttg	aatcagaaac	120
caaacacatg	taaaaaata	tcactctcaa	tgcccccat	taactctctc	tccagaagg	180
gacaatgtta	gtgaactcaa	gactctcact	gatgatggta	ttttacaatg	aaaacacaag	240
gaaacccttt	gagggtccat	tttcacatca	tattctccaa	atagtataat	agcagctcta	300
catgttgatg	aaaagaaatt	tcaatttctt	cctatttgtt	tttactcata	tcaacattaa	360
tatgtatctg	gatttattaa	tttccaaaaa	gaaaatttta	gttaccacaa	atttcagaaa	420
tttaataaag	cattatatat	atgtaattag	cacttatcta	cc		462

<210> 215

<211> 280

<212> DNA

<213> Homo sapien

<400> 215

aaacttttct	gaaacgatta	gctgtagcca	aattatgtgg	ttacgttttg	ctacattaga	60
atttgaaaat	gcaatatgtg	tggtaaatct	actgtttgaa	atttataatg	gtctctgata	120
tgattcgaat	tttggtaaact	tttgaaagtt	atcccccc	tttagtcatg	gattttctatt	180
tgttttttta	tgtaattttt	tctagaaagc	atctgaattg	actaggcttt	tcctatataa	240
aaaactcaaa	acttgttaac	tctgtacttt	aataaaattt			280

<210> 216

<211> 210

<212> DNA

<213> Homo sapien

<400> 216

aaaatctctg	gcttcaaagt	ttcttgggga	aaggctcggtt	tacctcacat	tttttgtttc	60
cattagtaat	attctaggta	cctcacaaaa	tgtattatgg	tgccatggct	gttagttttt	120
agtgagtgt	gtaggattaa	ttcgaaaata	ggcagaattc	cattcctccc	aagggtggcaa	180
aaattagcta	tactgatgta	attgtcattt				210

<210> 217

<211> 398

<212> DNA

<213> Homo sapien

<400> 217

ctggagctgc	tagaacttga	gatgagggca	agagcgatta	aagccctaata	gaaagctggt	60
gatataaaaa	agccagccta	ggatatttaac	ttgattttga	attttaggta	tgtttgaaca	120
aagccacatc	atttaatttt	gtatctaaaa	tttatttggt	gtcttatatg	ttattttctca	180
tgtaaccctt	attaggactc	attttagccc	taaattacct	gtggctgttt	ctttttattt	240
ttttgactac	ttttatatta	taaatgtgtg	ttactgtctt	atgaattcat	ggcaatatag	300
ttggatagcc	tggatacttt	gttagatgag	tatttagctg	tgtctgcaaa	tcttaaaagc	360
cattagcaaa	gagtcgtggt	atttttttct	ttattttt			398

<210> 218

<211> 487

<212> DNA

<213> Homo sapien

<400> 218

ctgccgccgg	tcaggctggt	taaagatcag	gtcccccagg	accttgcgat	ttatgtcgcc	60
attctccagc	aagacctcag	tgccgaagac	ctctacgatg	cgccggtggg	cagggtatcc	120
tggtctgcag	acgtgccggg	ccatcacgtc	cacgtcaatc	accgcacagc	ccagtttcag	180
tgttttttaca	cattatattg	ttataatctc	acaataacta	taaattaggt	agaacaggaa	240
atgaggtttg	gagaagatac	ttgacttatc	cgaccatctg	tacttgtccc	atagtaagga	300
gcctcaagca	gagacaaagg	aggaagtgtc	ctatgtttgta	tggtttacag	gccataaatg	360
aatgtcatct	ttttcctccc	ctggggaaaa	atgtctcaaa	aatcccacca	taggacatga	420
catctccaga	acctctatta	caaaatacac	atttcctgta	gaggggtaac	aaatttgggg	480
taacctg						487

<210> 219

<211> 390

<212> DNA

<213> Homo sapien

<400> 219

aaaaaataca	ccacacgata	caactcaata	caggagtatt	tcttctcaaa	ttcttctagc	60
accatcaaca	ttcttcaagt	atctgaaata	ctattaatta	gcacctttgt	attatgaaca	120
aaacaaaaca	aggacctcag	ttcatctctg	tctaggctcag	cacctaacaa	tgtggatcac	180
actcatggga	aagtgttttg	aggtagttta	aacctttgga	agtttgggtt	ttaaacttcc	240
ctctgtggaa	gatattcaaa	agccacaagt	ggtgcaaattg	tttatggttt	ttatttttca	300

attttttattt tgggttttctt acaaagggttg acatttttcca taacagggtgt aagagtgttg 360
 aaaaaaaagt tcaaattttt ggggggagcgg 390

<210> 220
 <211> 341
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1) ... (341)
 <223> n = A,T,C or G

<400> 220
 aaaacaggca aagtttttaca gagaggatac atttaataaa actgogagga catcaaagtg 60
 gtaaatactg tgaataacct tttctnnnca aaaggcaaat attgaagttg tttatcaact 120
 tcgctagaaa aaaaaaaaca cttggcatac aaaatattta agtgaaggag aagtctaacg 180
 ctgaactnnn aatgaaggga aattgtttat gtgttatgaa catccaagtc tttcttcttt 240
 ttttaagttgt caaagaagct tccacaaaat tagaaaggac aacagttctg agctgtaatt 300
 tcgccttaaa ctctggacac tctatatgta gtgcattttt a 341

<210> 221
 <211> 234
 <212> DNA
 <213> Homo sapien

<400> 221
 ccagggggaa ttgaggaggg ctctaagcta ggggcactgc atggtgggac aggatggccc 60
 cttgaggact gaaccctggg gagaagacaa acagtaataa taaaaacaaa taacaagtac 120
 ttttaagaatg gattgtatga cctatagtga cagatgacat cactaatact gaaagcttct 180
 tatattaata attttggcaa aatgtcattt tgtaatatag tatatgcttt ccag 234

<210> 222
 <211> 186
 <212> DNA
 <213> Homo sapien

<400> 222
 aaattttcat tgagttgtcc atctccagca tatagggtct caggagcaga gcagaccttg 60
 ttttttagtg ttccatggga taaaatggga ttggaggagc tagaagaatt cagggtcttg 120
 tccaatctgc cagtcttctt gaaatatcga aaatacacca gggctgctat atcagagcca 180
 ccctgg 186

<210> 223
 <211> 486
 <212> DNA
 <213> Homo sapien

<400> 223
 ccataagcag ataagtagca gttcaactgg atgtctctct tctccaaatg ctacagtaca 60
 aagccctaag catgagtggg aaatcgttgc ttcagaaaag acttcaaata acacttactt 120
 gtgcctggct gtgctggatg gtatattctg tgtcattttt cttcatggga gaaacagccc 180
 acagagctca ccaacaagta ctccaaaact aagtaagagt ttaagctttg agatgcaaca 240
 agatgagcta atcgaaaagc ccatgtctcc tatgcagtag gcacgatctg gtctgggaac 300
 agcagagatg aatggcaaac tcatagctgc aggtggctat aacagagagg aatgtcttcg 360
 aacagtogaa tgotataatc cacatacaga tcaactgtcc tttcttgctc ccatgagaac 420
 accaagagcc cgatttcaaa tggctgtact catgggccag ctctatgtgg taggtggatc 480
 aatgg 486

<210> 224
 <211> 322
 <212> DNA
 <213> Homo sapien

<400> 224
 aaatgttcac tatgtcattt agtgtccaac tttacggata ggttgactat ctaaataaggc 60
 attttttagtc attaaaaaaa aatctagtca ccaggaggat ccctataact caaaataaact 120
 tgtttgtaaa agaaaatttg tttacttacc cattagtaag ttcctgcata ttcattataa 180
 gatggcaaat caaacttttc taggatgaag acagcttatt ttttaagttgt atagtcttag 240
 ttggtttagg gtctcaattt taattaataa aataacttgg ttttatttgc ttgtcctttt 300
 gaattcctgt ttttaataatt tt 322

<210> 225
 <211> 489
 <212> DNA
 <213> Homo sapien

<400> 225
 aaatgtagga ataaaatggc tggcatctaa gcactttagt aaaagagggt tttacaaata 60
 actaaggatt gtagagcttc cttctctttt tttttctttt tctttctttt gttttacatg 120
 aactcaactt attcctaaca tttgtctacc tcaaagaaat ttcaagatta tttagataac 180
 atggatatgt gccaaatcct ttgagctggt aagatgataa tttcctgctt tcctcctaca 240
 tcttctcctc ccactccctc ctttggtgtg aataattggc tccaatttaa gacctttttt 300
 ttttttttcc agtttggttt agcttattat aggttttggg ggaactttgc cattttgtaa 360
 tctttcaaat cattcttcac ccttcctcac atcagcttcc tgcttttccc agtgttttac 420
 tgtaaattgt gtagcatatg acaaactctg agctgacttt cctcttcaact gatgtcatct 480
 tgagctctt 489

<210> 226
 <211> 398
 <212> DNA
 <213> Homo sapien

<400> 226
 caagggccca ccgcagagca cacctatgct atggggagcc ctgctggcag ccccgagagc 60
 catgccatgg cctgcaggag ccaggctcct gtgtggatga agtccctctt cctctgtgcc 120
 ttgatccctt gggggtgcct ttgggtcatct cttctgtcct ttcctgtctc tgaaatagtc 180
 atcaactccc ttgactctct ctgttcacgt cttctcagtc tgcagagtta acttctgtaa 240
 ggagtttaat ctgggggttc aagaaaacaa gttccttggt aacatagcac tgactttgca 300
 acaatagaaa actaacaat gagcaacaat ataaagagta gaggtagttc tcattggggtg 360
 taacttcaac ccattctgct tgtgggttaga atttataa 398

<210> 227
 <211> 535
 <212> DNA
 <213> Homo sapien

<400> 227
 ctgctgcata gaaaatatgc taacatacaa cagtcaagtt taagcctgtg catagagaag 60
 ataaagcact tatggtaact gcaaatggta acgagtcctt aagggtttgta caacctagta 120
 tgggtccata aggaaaaact gtagtagaaa tgggttaggac aaacaataaa gttagaaacag 180
 gggggaaaact tgagaagaga agaaagaagc aagaaaaaaa gactttcaat tgtataaaat 240
 tcacaaacca gttaaagtata aagacacccat ggagaaatgg ttaactctgc cccaaacacc 300
 caacagcaaa caaaaccaga atgaataagc ctttggcaga caattttaga aatttgaatg 360
 ttacattttct caataattca caaacaatat attatatggg atattttatat taaatattgg 420
 gaaaccaatg ttgtaaattt gatgcttata atgcttttagc caatgagagc acaatgatat 480

caatcaagct aatgaatgc tgggtgtatc acaacagtgc tcatttatga aacaa 535

<210> 228
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 228
 aaacaataaa caccatcaac cttattgact ttattgtccc ttaaattata ttgactgttg 60
 tgattccatc aagtttgtac actcttttct ctccctgttt tgcagcaaca aattgcgaag 120
 tgcttttgtt tgtttgtttt cgtttgggta aagcttattg ccatgctggt gcggctatgg 180
 agactgtctg gaaggcttgg aatggtttat tgcttatggt aaaatttgcc tgatttctta 240
 caggcagcgt ttggaaacct tttattatat agttgtttac atacttataa gtctatcatt 300
 t 301

<210> 229
 <211> 420
 <212> DNA
 <213> Homo sapien

<400> 229
 aaagttgctt tgctggaagt ttttataagg aatctcagat taaaccttta gaagtttaat 60
 tgacactagg aagccaaacc aaggetgact tcagactttg tttgtagtac ctgtgggttt 120
 attacctatg ggtttatata ctcaaatacg acattctagt caaagtcttg gtaatataac 180
 caatgttttc aaatgtattc tgtcatacaa agagcagatt tttattgaac ttgtgcaata 240
 actatattac catacaatat aaatattcat gaatagtttc ccaagtctgg agcgaccaca 300
 tagggagaaa atgcaaattg ctcaattttt gttcacaaaa gtatatttta tcaaattgct 360
 gtaagctgtg gatagcttaa aagaaaaaaa gtttcctgaa atctgggaaa caagacattt 420

<210> 230
 <211> 419
 <212> DNA
 <213> Homo sapien

<400> 230
 gtgaagtcct aaagcttgca ttccaccagc ttctacaata gccggcttat tactagagca 60
 gacagatagc accttcagca ctctgcttgt ggtccacagt agtttttctg aagtataggt 120
 cctcattata ttactaaaag cttgggggtcc accactagcc agtatgatga gcttgctttc 180
 ttggttgcca taagctaaaa tttgaaggca gtctgtcgta atagccaaga atttaacatt 240
 tgttttgttg agcaaggcaa ccattttctg cagcccacca gctaaacgca ctgccatttt 300
 agctccttct tgatgtaata aaaggttgtg gagagttgta atggcataaa acaacacaga 360
 atccactggt gaaccaagca ttttcaccag ggcaggaatg cctccagact taaagatgg 419

<210> 231
 <211> 389
 <212> DNA
 <213> Homo sapien

<400> 231
 ttgttcagag ccctgggtgga tcttgcaatc cagtgcctta caaaggctag aacactacag 60
 gggatgaatt cttcaaatag gagccgatgg atctgtggtc ctttgggact catcaaagcc 120
 ttggttttagc attttgtcag ttttatcttc agaaattctc tgcgattaag aagataattt 180
 attaaagggtg gtccttccta cctctgtggt gtgtgtcgcg cacacagctt agaagtgcta 240
 taaaaaagga aagagctcca aattgaatca cttttataat ttaccatttt ctatacaaca 300
 ggcagtggaa gcagtttcag agaacttttt gcatgcttat ggttgatcag ttaaaaaaga 360
 atgttacagt aacaaataaa gtgcagttt 389

<210> 232

<211> 397
 <212> DNA
 <213> Homo sapien

<400> 232
 ccaggataat atacacaggt ttgcagctaa aactgtgcac agtgggtcat tgatgctagt 60
 cacagtggaa ctgaaggaag gctctacagc ccagcttata ataaacactg agaaaactgt 120
 gattggctct gttctgctgc gggaaactgaa gcctgtcctg tctcaggggt aacctgctta 180
 catctggact ttagaatctg gcacacaaca aaagtgcctg gcatccacta ctgctgcctt 240
 tcatttataa taatagccct tccatctggc agtgggggaa gaatacactc ttgacattct 300
 tgtctcctgc tttagaatgc tagtgtgtat ctatcatgta tgcaataact tccccctttt 360
 tgcttttgcta accaaagagc atatatattta ctgtcag 397

<210> 233
 <211> 508
 <212> DNA
 <213> Homo sapien

<400> 233
 cgaggagtcg ctttaagtgcg aggacctcaa agtggggacaa tatatttgta aagatccaaa 60
 aataaatgac gctacgcaag aaccagttaa ctgtacaaac tacacagctc atgtttcctg 120
 ttttccagca cccaacataa cttgtaagga ttccagtggc aatgaaacac attttactgg 180
 gaacgaagtt ggtttttttca agcccatatc ttgccgaaat gtaaatggct attcctacaa 240
 agtggcagtc gcattgtctc tttttcttgg atggttggga gcagatcgat ttacacctgg 300
 ataccctgct ttgggtttgt taaagttttg cactgtaggg ttttgtggaa ttgggagcct 360
 aattgatttc attcttattt caatgcagat tgttggacct tcagatggaa gtagttacat 420
 tatagattac tatggaacca gacttacaag actgagtatt actaatgaaa catttagaaa 480
 aacgcaatta tatccataaa tatttttt 508

<210> 234
 <211> 358
 <212> DNA
 <213> Homo sapien

<400> 234
 aaatgttggt attcaaaacc aaagatatata ccgaaaggaa aaacagatga gacataaaat 60
 gatttgcaag atgggaaata tagtagttta tgaatgtaaa tttaaattcca gttataatag 120
 tggctacaca ctctcactac acacacagac ccacagtcct tatatgccac aaacacattt 180
 ccataacttg aaaatgagta ttttgcatac ctacagttcag gatattgttt ttacaagtta 240
 atcctaaagt cataaagcaa gaagctatct atagtacaaag attttatttg ctaagcttta 300
 caaattaaac tctaaaaaat tattacaatg atactgaaag atattttatt ggccctttt 358

<210> 235
 <211> 482
 <212> DNA
 <213> Homo sapien

<400> 235
 gaagaaagtt agatttacgc cgatgaatat gatagtgaat tggatttttg cgtagggttg 60
 gtctagggtg tagcctgaga ataggggaaa tcagtgaatg aagcctccta tgatggcaaa 120
 tacagtcctt attgatagga catagtggaa gtgagctaca acgtagtacg tgctgtgtag 180
 tacgatgtct agtgatgagt ttgctaatac aatgccagtc aggccaccta cggtagaaaag 240
 aaagatgaat cctagggtgc agagcactgc agcagatcat ttcattattg ttccgtggag 300
 tgtggcgagt cagctaaata ctttgacgcc ggtggggata gcgatgatta tggtagcggg 360
 ggtgaaatat gctcgtgtgt ctacgtctat tcctactgta aatatatggt gtgctcacac 420
 gataaacctt aggaagccaa ttgatatcat agctcagacc atacctatgt atccaaatgg 480
 tt 482

<210> 236
 <211> 149
 <212> DNA
 <213> Homo sapien

<400> 236
 cctcttcatt gttcacatgt cacaggagga ggctctgagc aaaggccact ggcaagtttag 60
 ggcaacacca agaaggctct gcggagagac tccctgtggg ttggggcctg gcaggaacgg 120
 tgccctgtgga ctgtttatgg tctgtccag 149

<210> 237
 <211> 391
 <212> DNA
 <213> Homo sapien

<400> 237
 gaagctaaat ccaaagaaat atgaagggtg ccgatgaatta agtgatttta ttagctatct 60
 acaaagagaa gctacaaacc cccctgtaat tcaagaagaa aaaccaaga agaagaagaa 120
 ggcacaggag gatctctaaa gcagtagcca aacaccactt tgtaaaagga ctcttccatc 180
 agagatggga aaaccattgg ggaggactag gacccatatt ggaattatta cctctcaggg 240
 ccgagaggac agaattggata taatctgaat cctgtttaa tttctctaaa ctgtttctta 300
 gctgcactgt ttatggaaat accaggacca gtttatgttt gtgggttttg gaaaaattat 360
 ttgtgttggg ggaaatgttg tgggggtggg g 391

<210> 238
 <211> 374
 <212> DNA
 <213> Homo sapien

<400> 238
 aaaaaacaaa acaatgtaag taaaggatat ttctgaatct taaaattcat cccatgtgtg 60
 atcataaact cataaaaaata attttaagat gccggaaaag gatactttga ttaaataaaa 120
 aactcatgg atatgtaaaa actgtcaaga ttaaaattta atagtttcat ttatttgta 180
 ttttatttgt aagaaatagt gatgaacaaa gatccttttt catactgata cctggttgta 240
 tattatttga tgcaacagtt ttctgaaatg atatttcaaa ttgcatcaag aaattaaaat 300
 catctatctg agtagtcaaa atacaagtaa aggagagcaa ataaacaaca tttggaaaaa 360
 aaaaaaaaaa aaaa 374

<210> 239
 <211> 200
 <212> DNA
 <213> Homo sapien

<400> 239
 aaagatgtct ttgaccgcat atgtactgga aatttcaaac gtggatcttc ccaggttgta 60
 gtctttgtgt tatgatcaat gaagaagggc cggccgtttg gcgctatcct catttcccag 120
 ccgggtggca agaagctctg tgtgactttg tgttggtggt tgggggagtt gtaaggtgat 180
 ggctgtgggg actgtgggtt 200

<210> 240
 <211> 314
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(314)
 <223> n = A,T,C or G

<400> 240
 ctggtaaact gtccaaaaca aggttccaaa taacacctct tactgattta ccctacccat 60
 acatatncca natagntttt gatcaaaaac atgaaatana tccacctgct tattttaagc 120
 atattaaaaa ggaaactaat tggaccattt tctatttgct tattttatata aaaaaggcta 180
 cacaattgat acactctatt cagataacaa tcaattagag tgantatgaa ttactggcga 240
 caccatcact caattcttaa aaattagaaa ttgctgtagc agtattcact ataacttaac 300
 actaccgaga gact 314

<210> 241
 <211> 375
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(375)
 <223> n = A,T,C or G

<400> 241
 ccaagtcctt ggagttatag gatattcatt acttcctctc attgtaatag cccctgtact 60
 tttggtggtt ggatcatttg aagtgggtgc tacacttata aaactgtttg gtgtgttttg 120
 ggctgcctac agtgcctgct cattgttagt ggggtgaagaa ttcaagacca aaaagcctct 180
 tctgatttat ccaatctttt tattatacat ttatcttttg tcgttatata ctggtgtgtg 240
 atccaagtta tacatgaata gaaaaagatg gtgttaaatt tgtgtgtagg ctgggaattc 300
 tngctaaagg aatggnaaaa aacctgtntt tgnaaaattn acntgtccca aagannaagga 360
 anctaaacgc ttttt 375

<210> 242
 <211> 387
 <212> DNA
 <213> Homo sapien

<400> 242
 aaaggcattc totgattttac atgagaattg agaaactgag atgtatgatt tgtctgttag 60
 tcaatttcac accctttcat totcataagc cccaaatttt gctcagttta ggagcttgct 120
 ttaggccac ctatgtaagt ctgtttact agctaattg cccatttgaa tagttcaagg 180
 gtcagctaat gctctgagct tcatggctcc agtataaaga acaaatttaa caaaattaag 240
 ctgttactgt agccgagtta cccttctgct ccacacatat gtagtgggat cttgcaggat 300
 ttccatagtg ccaattatca aaggccttga ctacttagca ttgctgtatt acagatgtgc 360
 aaactgaggc actgaaaagt caaattt 387

<210> 243
 <211> 536
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(536)
 <223> n = A,T,C or G

<400> 243
 aaaccaaag gacgaagaaa aaacactttn aaaaaaaaaa aaaaaaaga aaaaccaaac 60
 catattttgc cacatgtgag agtacgggtca agcagtattt acaaaaagg taacggaaca 120
 acactctgac acatgctctg agaatactgg gactgctgtt tcaaaaaaa aggttcaaac 180
 ttattgtcac agcatcatca caaaatagag gatcaccatt ggtttgcttg gcttttcttt 240
 ttttttttcc cccaagttag gacctaactc caaataatac aatagaatat gcaaattatc 300

ttcacatcaa	gagtacccca	agaaaaacga	aatccatggc	acanacactg	tacaaggggtg	360
cagggcaggg	ctctgagggg	cccaaaccoc	attttgccaa	ctcgattttc	tagcattgaa	420
gggagcaagg	ggtcaggcat	atgatggaga	tgatactgaa	atgattttatc	caaaatccat	480
gcaaatacaag	ttctttggat	agaggtgaan	aacttggaca	tggtctgttc	aggcag	536

<210> 244
 <211> 397
 <212> DNA
 <213> Homo sapien

<400> 244						
ccaggataat	atacacaggt	ttgcagctaa	aactgtgcac	agtgggtcat	tgatgctagt	60
cacagtggaa	ctgaaggaag	gctctacagc	ccagcttatac	ataaacactg	agaaaactgt	120
gattggctct	gttctgctgc	gggaactgaa	gcctgtcctg	tctcaggggt	aacctgctta	180
catctggact	ttagaatctg	gcacacaaca	aaagtgcctg	gcattccacta	ctgctgcctt	240
tcattttataa	taatagccct	tccatctggc	agtgggggaa	gaatacactc	ttgacattct	300
tgtctcctgc	tttagaatgc	tagtgtgtat	ctatcatgta	tgcaataactt	tccccctttt	360
tgctttgcta	accaaagagc	atatatttta	ctgtcag			397

<210> 245
 <211> 508
 <212> DNA
 <213> Homo sapien

<400> 245						
cgaggagtgc	cttaagtgcg	aggacctcaa	agtgggacaa	tatatattgta	aagatccaaa	60
aataaatgac	gctacgcaag	aaccagttaa	ctgtacaaac	tacacagctc	atgtttcctg	120
ttttccagca	cccaacataa	cttgtaagga	ttccagtggc	aatgaaacac	attttactgg	180
gaacgaagtt	ggttttttca	agcccatatc	ttgccgaaat	gtaaatggct	attcctacaa	240
agtggcagtc	gcattgtctc	tttttcttgg	atggttggga	gcagatcgat	tttaccttgg	300
ataccctgot	ttgggtttgt	ttaaagttttg	cactgtaggg	ttttgtggaa	ttgggagcct	360
aattgatttc	attcttattt	caatgcagat	tggttgacct	tcagatggaa	gtagttacat	420
tatagattac	tatggaacca	gacttacaag	actgagtatt	actaatgaaa	catttagaaa	480
aacgcaatta	tatccataaa	tatttttt				508

<210> 246
 <211> 358
 <212> DNA
 <213> Homo sapien

<400> 246						
aaatgttggg	attcaaaaacc	aaagatatata	ccgaaaggaa	aaacagatga	gacataaaat	60
gatttgcag	atgggaaata	tagtagttta	tgaatgtaaa	ttaaattcca	gttataatag	120
tggtacaca	ctctcactac	acacacagac	cccacagtcc	tatatgccac	aaacacattt	180
ccataacttg	aaaatgagta	ttttgcatat	ctcagttcag	gatatgtttt	ttacaagtta	240
atcctaaagt	cataaagcaa	gaagctattc	atagtacaag	attttatttg	ctaagcttta	300
caaattaaac	tctaaaaaat	tattacaatg	atactgaaag	atattttatt	ggcctttt	358

<210> 247
 <211> 673
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(673)
 <223> n = A,T,C or G

<400> 247
 gaagaaagtt agatttacgc cgatgaatat gatagtgaat tggatttttg cgtaggtttg 60
 gtctagggtg tagcctgaga ataggggaaa tcagtgaatg aagcctccta tgatggcaaa 120
 tacagctcct attgatagga catagtggaa gtgagctaca acgtagtacg tgtcgtgtag 180
 tacgatgtct agtgatgagt ttgctaatac aatgccagtc aggccaccta cggtgaaaag 240
 aaagatgaat cctaggggtc agagcactgc agcagatcat ttcattattgc ttccgtggag 300
 tgtggcgagt cagctaaata ctttgacgcc ggtggggata gcgatgatta tggtagcgga 360
 ggtgaaatat gctcgtgtgt ctacgtctat tcctactgta aatatatggt gtgctcacac 420
 gataaacctt aggaagccaa ttgatatcat agctcagacc atacctatgt atccaaatgg 480
 ttcttttttt ccggagtagt aagttacaat atgggagatt attccgaagc ctggtaggat 540
 aagaatataa acttcagggt gaccgaaaaa tcagaatagg tgttggtata gaatggggtc 600
 tctnctccg cgggggtcnaa gaaggtggtg ttgangttgc cggntctgta ntagtatagn 660
 gatgccaanca gct 673

<210> 248
 <211> 149
 <212> DNA
 <213> Homo sapien

<400> 248
 cctcttcatt gttcacatgt cacaggagga ggtcttgagc aaaggccact ggcaagttag 60
 ggcaacacca agaaggctct gcggagagac tccctgtggg ttggggcctg gcaggaacgg 120
 tgcctgtgga ctgtttatgg tctgtccag 149

<210> 249
 <211> 458
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(458)
 <223> n = A,T,C or G

<400> 249
 gaagctaaat ccaaagaaat atgaaggtgg ccgtgaatta agtgatttta ttagctatct 60
 acaaagagaa gctacaaacc cccctgtaat tcaagaagaa aaaccaaga agaagaagaa 120
 ggcacaggag gatctctaaa gcagtagcca aacaccactt tgtaaaagga ctcttccatc 180
 agagatggga aaaccattgg ggaggactag gaccatattg ggaattatta cctctcaggg 240
 ccgagaggac agaattgata taatctgaat cctgttaaat tttctctaaa ctgtttctta 300
 gctgcactgt ttatggaaat accaggacca gtttatgttt gtgggttttg gaaaaattat 360
 ttgtgttggg ggaaatgttg tgggggtggg gttgagttgg gggatatttc taattttttt 420
 tgtacatttg gaacagtgc aataaatgan accccttt 458

<210> 250
 <211> 374
 <212> DNA
 <213> Homo sapien

<400> 250
 aaaaaacaaa acaatgtaag taaaggatat ttctgaatct taaaattcat cccatgtgtg 60
 atcataaact cataaaaaata attttaagat gccggaaaag gatactttga ttaaataaaa 120
 aactcatgg atatgtaaaa actgtcaaga ttaaaattta atagtttcat ttatttggtta 180
 ttttatttgt aagaaatagt gatgaacaaa gatccttttt catactgata cctgggttga 240
 tattatttga tgcaacagtt ttctgaaatg atatttcaaa ttgcatcaag aaattaaaat 300
 catctatctg agtagtcaaa atacaagtaa aggagagcaa ataaacaaca tttggaaaaa 360
 aaaaaaaaaa aaaa 374

<210> 251
 <211> 356
 <212> DNA
 <213> Homo sapien

<400> 251
 aaagatcttc tctaacaagc tatgggaatt tggcttcata ctctttcttt gcaacagcag 60
 tgttctgggt gataattttg aattgatacc tgttcctttt tctggggttt gttggccttt 120
 tgaaaaattg tctttcctta tcattgggtg gaggcctggg agcaaagtaa cattttttgg 180
 aaaagaggac agaaaaattg aactacagct tgagaacgta ttcttttttt cctactttgt 240
 tattgcaaat tgaggaatca cttttaactg ttttaggtgt gtgtgtccag agtgagcaag 300
 gattatgttt ttggattgtc aaagaggatg cttagtctta aaataaaaaat aaattt 356

<210> 252
 <211> 484
 <212> DNA
 <213> Homo sapien

<400> 252
 ctggtaaact gtccaaaaca aggttccaaa taacacctct tactgattta ccctacccat 60
 acatatocca aatagttttt gatcaaaaac atgaaataga tccacctgct tattttaagc 120
 atattaaaaa ggaaactaat tggaccattt tctatttgtc tattttatac aaaaaggcta 180
 cacaattgtt acactttatt cagattacaa ttaattagag tgattatgaa ttagtgttct 240
 acaccattac tcaattctta aaaattagaa attgctgtag cagtattcac tataacttaa 300
 cactacgaga gacttaaaaa acagttactg caaaaaaaaa aaagagctac ttcaaagcaa 360
 gcaaagtcag taccattaca gatattctta aaaaaaaaaa aaaatttaac aagcaaggct 420
 agggtttgat aaattccatc ttgtgatcca ttcttgtgca ttcttcactt cttgagtcac 480
 tccc 484

<210> 253
 <211> 379
 <212> DNA
 <213> Homo sapien

<400> 253
 aaaaagcgct tagacttccc tttccatctg gaacatgtaa aattttgcag caacagggtt 60
 tctccaattc cttcagcaag aattcccagc ctacacacaa atttaacacc atctttttct 120
 attcatgtat aacttggatc acacaccagt atataacgac aaaagataaa tgtataataa 180
 aaagattgga taaatcagaa gaggcctttt ggtcttgaat tcttcaccca ctaacaatga 240
 agcagcactg taggcagccc aaaacacacc aaacagtttt ataagtgtag acaccacttc 300
 aaatgatcca accaccaaaa gtacaggggc tattacaatg agaggaagta atgaatatcc 360
 tataactcca aggacttgg 379

<210> 254
 <211> 387
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(387)
 <223> n = A,T,C or G

<400> 254
 aaatttgact ttccagtgc tcagtttgca catctgtaat acagcaatgc taagtagtca 60
 aggccnttga taattggcac tatggaaatc ctgcaagatc ccactacata tgtgtggagc 120
 agaagggtaa ctgggtaca gtaacagctt aattttgtta aatttgttct ttatactgga 180
 gccatgaagc tcagagcatt agctgaccct tgaactattc aaatgggcac attagctagt 240

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ataacagact tacataggtg ggcttaaagc aagctcctta actgagcaaa atttggggct 300
tatgagaatg aaagggtgtg aaattgacta acagacaaat catacatctc agtttctcaa 360
ttctcatgta aatcagagaa tgccttt 387

```

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<210> 255
<211> 225
<212> DNA
<213> Homo sapien

```

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<220>
<221> misc_feature
<222> (1)...(225)
<223> n = A,T,C or G

```

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<400> 255
aaatgtcttg tttcccagat ttcaggaaan tttttttctt ttaagctatc cacagcttac 60
agcacctttg ataaaatata cttttgtgaa caaaaattga gacatttaca ttttctccct 120
atgtggctgc tccagacttg ggaaactatt catgaatatt tatattgtat ggtaatatag 180
ttattgcaca agttcaataa aaatctgctc tttgtatgac agaatt 225

```

```

<210> 256
<211> 544
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(544)
<223> n = A,T,C or G

```

```

<400> 256
ccttgcttaa agcccagaag tggtttaggc ntttggaana tctggttcac atcataaaga 60
acttgatttg aaatgttttc tatagaaaca agtgctaagt gtaccgtatt atacttgatg 120
ttggtcattt ctcaagccta tttctcagtt ctattatttt agaacctagt cagttcttta 180
agattataac tggctcctaca ttaaaataat gtttctcgat gtcagatttt acctgtttgc 240
tgctgagaac atctctgcct aatttaccaa agccagacct tcagttcaac atgcttcctt 300
agcttttcat agttgtctga catttccatg aaaacaaagg aaccaacttt gttttaacca 360
aactttggtt ggttacagtt ttcaggggag cgtttcttcc atgacacaca gcaacatccc 420
aaagaaataa acaagtgtga caaanaaaaa aacaaaccta aatgctactg ttccaaagag 480
caacttgatg gtttttttta atactgagtg caaaaggnea cccaaattcc tatgatgaaa 544
tttt

```

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<210> 257
<211> 420
<212> DNA
<213> Homo sapien

```

```

<400> 257
aaatgtcttg tttcccagat ttcaggaaac tttttttctt ttaagctatc cacagcttac 60
agcaatttga taaaatatac ttttgtgaac aaaaattgag acattttacat ttttcccta 120
tgtggctgct ccagacttgg gaaactattc atgaatattt atattgtatg gtaatatagt 180
tattgcacaa gttcaataaa aatctgctct ttgtatgaca gaatacattt gaaaacattg 240
ggtatattac caagactttg actagaatgt cgtatttgag gatataaacc cataggtaat 300
aaaccacag gtactacaaa caaagtctga agtcagcctt ggtttggtt cctagtgtca 360
attaaacttc taaaagttta atctgagatt ccttataaaa acttccagca aagcaacttt 420

```

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<210> 258
<211> 736

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<212> DNA

<213> Homo sapien

<400> 258

aaacaaaatg ctaaacctaa aaacattggt ctgtcagttc ccaaattaaa tctacttaga	60
acaaaaacaa aaatattatag ctcggtcaca tactacttaa ataattattgt tcaggcatct	120
ctaaaatcct ccatgttttc aagtatggaa atagaactca aatattccac aatacagtac	180
taaacagatg gagtatttag gaaagacttt gttgtcatat ggcacaatat taatattttg	240
ttgcttcaat acgttttgaa ataaatatca gatttttggt tttttttcct aaaagaccaa	300
aattataatc tacattaaga taattctgac tgtggttaag acttaagagt gtaaaataca	360
acatcaatat tttatcacaa aagtaaagct ggtaacaaat tataaaagga gccagtactc	420
tactgagaca ggctcggaga ttaaagctca tcatgataga aatagtcatc atggagctgt	480
ctgccataat ctgtggcttc actggtgaga aacaagtcgc ggttttccag aatctcttct	540
tcagagagct tttgttcacc attcaaatcc atttcatcaa ttagatgaag cgcctcctct	600
tgtgcaatgc cctgattatt aggtctaccc aaggtaacag ctcttgggga tcaagcctgc	660
catcgttatc tttgtcataa tcattcacccg aatctgtctt tctcacaagt atcccattct	720
ggatcttcat ttgcag	736

<210> 259

<211> 437

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(437)

<223> n = A,T,C or G

<400> 259

aaaaccatac tgaaatcatt taccaaataa cnaagatctt aatctaaaag atagtgaata	60
catcatcatc atgaaatctg gttttatgtg ctctatgaag tacttggaga attgcttttt	120
tatttttctt ttgctttatt aggtcacaca aaacagaatg aattagcaga aaaatgtatg	180
ttataaaaca gcatttacta cttcaattta atttttttta ctaacaattg tggacctttt	240
tgatgacact tatgtatggt ttttaataa atgtacttta ttagtactta atgagccctt	300
cctgcctcaa tataaaatta ctaaacttgg agaattacag attttattgt aggccctgat	360
gttagtcaact ttggagaagc taaaaatttg gaaatgatgt aattcccatc gtaatagcat	420
agggattttg gaagcag	437

<210> 260

<211> 592

<212> DNA

<213> Homo sapien

<400> 260

tttttttttt gaaaaatata aaattttta ataaaggctaca tctcttaatt acaataatta	60
ttgtaccaag taatttttct taaatgaact ctttataatg cataattttac agtataagta	120
gaacaaaatg tcatgacaaa agtcattgag tacaagactt gtaataaaaaa ggcataaaat	180
atattttatac ataaacccct ttcaaaaaac aagggaaagc ttgagccctc aatatagggc	240
gacacacgga gcgggtgacc gtgcagggtac aggtactgta ctgattttaa gtcaagcact	300
agagatagtg gattaatact cttttgccgt acactatata cagatgtata gtacaagtaa	360
caatggcaaa cagaatgtac agattaactt aacacaaaaa cccgaacatc aaaatgaagg	420
tgtgtggagg aaaggtgctg ctgggtctcc ctacaactgt tcattttctt gtggggcagg	480
gggtagttcc tgaatggctg tgggtccaat actaatgtaa aacaaaaaca gaaacaaaaa	540
aaacaaggaa ctgtcatttc cacgaaagca cagcggcagt gattctagca gg	592

<210> 261

<211> 450

<212> DNA

<213> Homo sapien

<400> 261

gtggcagggc ccagccccga accagacaag ggaccctca aggagcttca ttctagcatg	60
agaaaaatga gaagtaaacc agaaagtac agaatgtctg aaggggacag tgtgggagaa	120
tccgtccatg ggaaaccttc ggtggtgtac agatttttca caagacttgg acagatttat	180
cagtcctggc tagacaagt caccacctac acggctgtgc gatgggtcgt gacactgggc	240
ctgagctttg tctacatgat tcgagttttac ctgctgcagg gttggtacat tgtgacctat	300
gccttgggga tctaccatct aaatcttttc atagcttttc tttctcccaa agtggatcct	360
tccttaatgg aagactcaga tgacggtcct tcgctacca ccaaacagaa cgaggaattc	420
cgcccttca ttcgaaggct cccagagttt	450

<210> 262

<211> 239

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(239)

<223> n = A,T,C or G

<400> 262

taactttgat gacaaaatct aaaattaaag anttagtctt aaaagcctat agtgacttgt	60
ttacttgcac aaataatatt ttcacttagt acaggctatt aatataagta atgagaattt	120
aagtattaac tcaaaaaaag atagaggctc caaacttttc taagaaatta atgcattttc	180
aaagtaataa tataatcaat ctgtaagtca aaagtaattt catattcatt gccaaattt	239

<210> 263

<211> 376

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(376)

<223> n = A,T,C or G

<400> 263

aaaaaaaaaa aaaaaaaatt ccttgtngtt tnttagagga aaaaaagaaa aaccccaact	60
tttancactg atactacata ttgctctgtt aaagaatttt ctctgccaaa aaaaagaaaa	120
aacaaaaaaa cgcttaaagc tggagtttga cattctgctt tcagatgctg tctttttatt	180
agtgagtgat gatggtttgc taataatcaa taggtaataa ttttttgtaa tcccatcaag	240
tggctccata tgtttctgct ctctcgtgac tgtgttaatg ttttaactgt gtaccttaaa	300
gccgaaatca gtaactatgc atactgtaac caaggatttg ggcttacaga gttgtttgtt	360
gnataaagaa aatttt	376

<210> 264

<211> 207

<212> DNA

<213> Homo sapien

<400> 264

aaattagcat tccacaaata tacaggtaat ttaataatta ttgtgcatga atacatacac	60
aatgcttata tatacaaatt ccagtttgtt ttcatgtgct ggcaagggat ttgtatacaa	120
tcataagctg tgttcatatt ggtcccattg aatattcaca atacaaaagc acaaaagaac	180
cattgatatta caaaaggaaa tctattt	207

<210> 265
 <211> 388
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(388)
 <223> n = A,T,C or G

<400> 265
 naactgcact ttatttggtta ctgtaacatt nttttttaac tgatcaacca taagcatgca 60
 aaagnccnct gaaactgctt ccactgcctg ttgtatagaa atgggtaaat tataaagggtg 120
 attcaatttg gagtccttc cttttttata gcacttctaa gctgtgtgcg cgacacacac 180
 cacagaggta ggaaggacca cctttaataa attatcttct taatcgaga gaatttctga 240
 agataaaact gacaaaatgc taaaccaagg ctttgatgag tcccaaagga ccacagatcc 300
 atcggtcctt atttgaagaa ttcattccct gtagtggtct agcctttgta gggcactgga 360
 ttacaagatc caccagggtc ctgaacaa 388

<210> 266
 <211> 616
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(616)
 <223> n = A,T,C or G

<400> 266
 aaatacagag tcaaaagatg atttataaaa tntaaaacat tttctgcttg gccgtatttg 60
 aagacaagct gaatacatat ctatgttctg aataagtcca ctatggatat atataggaag 120
 agatatacat atatccatcc acagatacac acacacatat atatttctgc atgtatatat 180
 acataattct ttctatagtt acaggaaata cttcttctat aattctgatt ttgactccca 240
 tctccacca ttactcatc cactcattac ctaaatcttg gctttcttct ctatattgta 300
 aataatccat ccaaacttct agccagtact gtcaggaggg ttcttgctcg agtgagctgt 360
 taatactatt ttccactgac aacttctgca catcgaggac acagtgtatc tgaagactcc 420
 gctgtatact tccaacaacg ggggcatttt tctttcgtag tcggcatgac aattacttta 480
 taggaagact cttcacgaat atcaccacct tctaagttga tgaggaattt ccctttaagc 540
 tcgattacat ctgcagtcac ctctcgtggt tcttgaccag taaagttgac tcagaagcca 600
 tcattaattc attcaa 616

<210> 267
 <211> 341
 <212> DNA
 <213> Homo sapien

<400> 267
 ccattatgta tgtattttct tgaaaaatac ttatttcagc tacttatttt' taatagttac 60
 ttattcttgt tgtattgtca tttagatttt gtatatattt ttgatattaa ccccttgta 120
 catgtataat ttgcaaatat ttctccctt tttttagttg tcacattctg ttcatgtat 180
 cagattctgt gcagcagctt ttttaattga agtgatctga ctgacttggt cttccttttg 240
 tgtcctggga tatttaggtt aaatcaaaaa acttgctgcc cagaccaatg ttatggggct 300
 ttcactctat tttttggtag tagtagttta agagttttag g 341

<210> 268
 <211> 367
 <212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(367)

<223> n = A,T,C or G

<400> 268

ttgtagattg	gaatagcaaa	agtgaatgct	ntgaccaaaa	tttttgcct	cctaaataaa	60
gacgtntcct	tctagagagc	aaatctatca	taaaatgtca	aaactagaag	agaataaaat	120
gaaaggaaaa	aacctagaaa	aatatcctaa	aatatcaaat	gcagtcattt	ctaaatataa	180
gccataatta	tagctttacc	tattgttctt	attgttccta	tgctgcttct	acaatgttac	240
atcaactata	cttagcttta	ctctcccaa	atcttgggtga	tgaagccttc	tgagtgtgct	300
ttccaatgtg	ccagaaccag	aagggcattc	caaggcttcc	ccacatttcc	tccatttacg	360
gagacag						367

<210> 269

<211> 270

<212> DNA

<213> Homo sapien.

<220>

<221> misc_feature

<222> (1)...(270)

<223> n = A,T,C or G

<400> 269

caaattctct	cctcactaga	cgtaagccnt	ttntcactc	tctcaatctt	atgcatcata	60
gnaangcngn	tgaggtggat	taaaccaa	ccagctacgc	aaaatcttag	catactcctc	120
aattaccac	ataggatgaa	taatagcagt	tctaccgtac	aaccctaaca	taaccattct	180
taatttaact	atttatatta	tcctaactac	taccgcatcc	ctactactca	acttaaaact	240
cagcaccacg	accctactac	tatntcgac				270

<210> 270

<211> 368

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(368)

<223> n = A,T,C or G

<400> 270

ctgaatcatg	aataacacta	tataatagag	tntaaggaac	acaagcatta	gatgtgatcc	60
ttgccccata	cccttagatt	atgtcagact	aaagctgaca	attctgccag	gctctgaacc	120
cctagtgcc	ccaacccaaa	tcttggaagc	aaagaatatg	ccctgtcata	caactttgta	180
caagttgtag	taaaacaaag	cttaagtttt	ctcatotttc	tacagcaa	ggtcagttat	240
ttaataaaca	ctaaaatgct	cctaagaatc	catttttgagt	ttgtttacca	aacacattgt	300
gcaagaactg	actacacaaa	aagttccctt	gaaatttggt	gcacaaattc	acttaagggt	360
ggaaattt						368

<210> 271

<211> 313

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature
 <222> (1)...(313)
 <223> n = A,T,C or G

<400> 271
 aaatttatat aaaactctgt acatgttcac tttattattg cataaacagc ataactctca 60
 agacaanngt ttgcaaacac atgtccaatt caggaaaaaa aatttcacgt ttctcgtctg 120
 gcttttttct tcttttttat ttgtttggga gattcccagc tagtttcaga cttggctctg 180
 gaaggaggca cactattttg cttgggtattt gacttggatt tatctgtctc ttgtagtatt 240
 ggcggcactt gggaagagct cttgtcagaa tcactttttg ataagattac agatggctcg 300
 gtagaagtag cag 313

<210> 272
 <211> 462
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(462)
 <223> n = A,T,C or G

<400> 272
 aaaaaacatt tattttaata agactattgc naacacatta aaaaaactaa atagtaatat 60
 tacaaaaatct atatacttgc acatttagta tttgtcaatg tgccagaggt tttcttcag 120
 aaatttgact tctttgaagt gaaggctttt ttctatcatc tcttatagct ctgactgaat 180
 aagtcttaat gctttcttca tgttttctat caataggggt aaatcccag gctcatatgt 240
 gtacaatctg tttagagtac ttccagctat gtcagctcta actgttaaag aagggtctac 300
 aaacatgatt ctaggcacat attgcccac aggtgataaa ttcttatcag tggtttcag 360
 cataaggttt agcatgatga acttattctg agccatttct tgtatttctt cattttgggc 420
 aaatactttc tttagtgtt gagagtattg acaatcctcc ag 462

<210> 273
 <211> 282
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(282)
 <223> n = A,T,C or G

<400> 273
 ctgatcaaag catgggatat tttaatagtn ttatacataa tttttttaca tagaaaactt 60
 tacatnncat ttcatttat ataatctgc ttattctttc aaaaatttat acatccattg 120
 ggcaaggaat ggttttcatt aaattaccaa tattaatgc acttaatcat tgtgtatagg 180
 ttaaaccaa gtaactatta actaactttt aggcatttta aggaggtaaa acatacattt 240
 tacacataag tatttgatgc aaatatgcag ataaaatttt tt 282

<210> 274
 <211> 125
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(125)
 <223> n = A,T,C or G

<400> 274
 cagccctaga cctcaactac ctaaccaacn ttncttaaaa taaaatcccc actatgcaca 60
 ttnaatcnct ccaacatact cggattctac cctagcatca cacaccgcac aatccccctat 120
 ctagg 125

<210> 275
 <211> 528
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(528)
 <223> n = A,T,C or G

<400> 275
 aaagctgtgg aaaagcttta ttatagatTT ttntacagaa ttaaaaaagt tcaacaata 60
 ataagccngg aaccacaaat aattaaaagg aaacacagca atcccataaa caagcattct 120
 ggcatctgtt agaaattttc cctcaaatTA tgaaatgtag ctctccatgc tttccaatga 180
 ttgttataat acccacaaat atctgtgatt tcagtggaaT actttaacaa aagttttctt 240
 tttaaggcat gatcctgatt cattttttct tcaatatctc agtcatttca ggaactacct 300
 taaataaatc tgcaactatt ccataatctg ccacttggaa aattggagct tctgggtctt 360
 tattaattgc cacaattgtc ttgctgtctt tcatcccagc taaatgttgg atggctccag 420
 atattccaac agcaatataa agttctgggt ctactatTTT tcccgctctgn ccaacttgca 480
 tgtcattggg aacaaagcca gcatcaacag cagcacggga agcaccaa 528

<210> 276
 <211> 420
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(420)
 <223> n = A,T,C or G

<400> 276
 aaatgtcttg tttcccagat ttcaggaaan tttttttctt ttaagctatc cacagcttac 60
 agaaacctga taaaatatac ttttgtgaac aaaaattgag acatttacat tttctcccta 120
 tgtggtcgct ccagacttgg gaaactatTC atgaatattt atattgtatg gtaatatagt 180
 tattgcacaa gttcaataaa aatctgctct ttgtatgaca gaatacattt gaaaacattg 240
 gttatattac caagactttg actagaatgt cgtatttgag gatataaacc cataggtaat 300
 aaaccacag gtactacaaa caaagtctga agtcagcctt ggtttggctt cctagtgtca 360
 attaaacttc taaaagtTTa atctgagatt ccttataaaa acttcagca aagcaacttt 420

<210> 277
 <211> 668
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(668)
 <223> n = A,T,C or G

<400> 277
 ccagggtggc tctgatatag cagccctggT ntatttttga tatttcagga agactggcag 60

atngcaccag	accctgaatt	cttctagctc	ctccaatccc	attttatccc	atggaaccac	120
taaaaacaag	gtctgctctg	ctcctgaagc	cctatatgct	ggagatggac	aactcaatga	180
aaatttaaag	ggaaaaccct	caggcctgag	gtgtgtgcc	ctcagagact	tcacctaaact	240
agagacaggc	aaactgcaaa	ccatggtgag	aaattgacga	cttcacacta	tggacagctt	300
ttccaagat	gtcaaaacaa	gactcctcat	catgataagg	ctcttacc	cttttaattt	360
gtccttgctt	atgcctgcct	ctttcgcttg	gcaggatgat	gctgtcatta	gtatttcaca	420
agaagtagct	tcagagggta	acttaacaga	gtatcagatc	tatcttgtca	atcccaacgt	480
tttacataaa	ataagagatc	ctttagtga	cccagtga	gacattagca	gcattcttaa	540
cacagccgtg	tggttcaaatg	tacagnggtc	cttttcagag	ttggacttct	agactcacct	600
gttctcactc	cctgttttaa	ttcaaccag	ccatgcaatg	ccaaataata	gaaattgctc	660
cctaccag						668

<210> 278
 <211> 202
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(202)
 <223> n = A,T,C or G

<400> 278						
aaattggtat	cgacggcaac	caggggaagn	tnctaaactc	ctaattctatt	ctggatccaa	60
ttngcnaagt	ggggtcccat	caaggttcag	tggcagtggg	tctgggacag	atttcactct	120
cacgatcagc	agtctgcaac	ccgaagattt	tgcaacttac	tactgtcaac	agagttacat	180
gtcccogtac	acttttggac	cc				202

<210> 279
 <211> 694
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(694)
 <223> n = A,T,C or G

<400> 279						
ctgtacttgg	acaaaataag	ttaattctat	ttggttgtcc	attaaagttt	tatgtggcta	60
tgnaccact	ggagctaaaa	attggctttt	aactgtttcc	aaatcagaac	tagcagagga	120
gagaagtaaa	taaagccaat	ggcactccct	tcagaggctc	aaaatggtta	gattttgatg	180
cagatttaac	cttagcgagt	ttcagtcagt	ccatttagat	gatcctgtag	gttcatacaa	240
atacactgaa	ccgttgggtt	aacttctctt	ccttcctcaa	agtttatgat	aaagagactc	300
atccctgtat	tgggagtga	tgacataagt	tcagatctgc	tcagagtggc	tggtaaggaa	360
cacttaaggt	cagtcagaaa	ataatcaaac	agacttctca	tgtaagcacc	gtgactcaca	420
actaagacac	tggctgctaa	tcctggaata	ccgctgtctg	aattaacttt	agagctgtga	480
ttttttccta	aaggaaatat	ctctgccaaa	gaagtttcca	gacagntgct	tgggagatcc	540
ttggggaaaa	ctggtctttt	tgatccggtt	ctttcangan	taggtngaca	aaagaaatnc	600
aaaaaagnct	atcccacgcn	tttntcacct	gggccacg	gnnctcctcc	nggggggggn	660
aaacacangg	gactcttccc	ngggctngct	tnng			694

<210> 280
 <211> 441
 <212> DNA
 <213> Homo sapien

<400> 280

```

aaaaaacttc catgcaactt ctggttttatt gtttggcaac tccacatgat aaaaaataa      60
aaacagccca accgagtttc ggaattaagt attcttctag taagtgattc aaacttgtaa      120
tatttgccac aggactgact tatttatatta ctagctagaa gctcttaagt tcaacttgttt      180
atcagggcat atacagaagg gtttggttaa actcgatgtt aactttacaa ctttctgacc      240
tggtgcatga attctcaagt actgtatttc actgtgttgg tgtgtctgat ggaaatttcg      300
aggtggccc acaaaaatat tttatgtagt gtgccttcaa agagaacat ttatttctct      360
tcacttatcg tcccacaaag tcacatttgg tgggtggcag ccaagtcgca tctggtctag      420
ttttactctt gtcccaattt t                                     441

```

<210> 281
 <211> 398
 <212> DNA
 <213> Homo sapien

```

<400> 281
aaatttggtta ggtctgaaga atctaaaact gttaatttaa cccttaactt gtgcctagaa      60
actacagcac atataaaata tgtaaacacc agcctgttgc tgtacttttc tgcttatttt      120
acagcctcaa atatttctca ttatcttgtc acttagttct tcatgtttct ctttctgact      180
tttaataatg gtaataggaa aacaaaaccc aaagcttttc agaacttcag tgtgagggtt      240
cctattttga caagttaact tgtaaatact cagggttttac gatgtataat ttacctaata      300
gaccaaacta actcatggag atattttgaa ctattattta ggtacaaact ttataaagaa      360
tgtagtatg tcataaaata taacattaca gcttattt                                     398

```

<210> 282
 <211> 226
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(226)
 <223> n = A,T,C or G

```

<400> 282
aaaacaatat tctcttttttg aaaatagtat naacaggcca tgcataatat gtacagtgta      60
ttacnccaat atgtaaagat ttttcaaggt aacaagggtt tgggttttga aataaacatc      120
tggatcttat agaccgttca tacaatgggt ttagcaagtt catagtaaga caaacaagtc      180
ctatcttttt ttttggtctgg ggtgggggcg cccaggccga ggctgg                                     226

```

<210> 283
 <211> 358
 <212> DNA
 <213> Homo sapien

```

<400> 283
aaacaaaaat actcaagatc atttatattt ttttggagag aaaactgtcc taatttagaa      60
tttcctcaa atctgaggga cttttaagaa atgctaacag attttcttg aggaaattta      120
gacaaaacaa tgtcatttag tagaatattt cagtatttaa gtggaatttc agtatactgt      180
actatccttt ataagtcatt aaaataatgt ttcatacaat ggtaaattgg accactggtt      240
tcttagagaa atgttttttag gcttaattca ttcaattgtc aagtacactt agtcttaata      300
cactcaggtt tgaacagatt attctgaata ttaaaattta atccattctt aatatttt      358

```

<210> 284
 <211> 288
 <212> DNA
 <213> Homo sapien

<400> 284


```

aaaacttttg ttaagaaaaa ctgccagttt gtgcttttga aatgtctgtt ttgacatcat    60
agtctagtaa aatttttgaca gtgcataatgt actgttacta aaagctttat atgaaattat    120
taatgtgaag ttttttcattt ataattcaag gaaggatttc ctgaaaacat ttcaagggat    180
ttatgtctac atattttgtgt gtgtgtgtgt gtatatatat gtaatatgca tacacagatg    240
catatgtgta tatataatga aattttatgtt gctggtatgt tgcatttt    288

```

<210> 285

<211> 629

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(629)

<223> n = A,T,C or G

<400> 285

```

cctaaaagca gccaccaatt aacaaagcgt ncanctcaa caccactac ctaaaaaatc    60
ccaaacatat aactgaactc ctacacacca attggaccaa tctatcacc tatanaagaa    120
ctaagttag tataagtaac atgaaaacat tctcctctgc ataagcctgc gtcagattaa    180
aacactgaac tgacaattaa cagcccaata tctacaatca accaacaagt cattattacc    240
ctcaactgta acccaacaca ggcattgctc taaggaaagg ttaaaaaaag taaaagggaac    300
tcggcaaatc ttaccccgcc tgtttaccaa aaacatcacc tctagcatca ccagtattag    360
aggcaccgcc tgcccagtga cacatgttta acggccgcgg taccctaacc gtgcaaagggt    420
agcataatca cttgntcctt aattaggagc ctgtatgaat ggcttcacga ggggttcagct    480
gtctcttact ttttaaccagt gaaattgacc tgcccgtgaa gaggcnggca tgacacagca    540
agacgagaag accctatgga gctttaattt attaattgca acagnaccta acaaacccca    600
caggtcctaa acttacccaa accctggca    629

```

<210> 286

<211> 485

<212> DNA

<213> Homo sapien

<400> 286

```

aatgtactt gtcagctca actgcatttc agttgtatta tagtccagtt cttatcaaca    60
ttaaaaccta tagcaatcat ttcaaacta ttctgcaaat tgtataagaa taaagttaga    120
attaacaatt ttattttgta caacagtggg attttctgtc atggataatg tgcttgagtc    180
cctataatct atagacatgt gatagcaaaa gaaacaaaca aaagccagga aaacactcat    240
tttcgccttg aatatgtaaa tgggattaat tttgtcctgt gccttatgtg gaaaggaact    300
tctttggttt tccttttttg ttctgggtgga agcatgtgca ggagacatat catccaaaca    360
taaaccatta aaatgtttgt ggtttgcttg gctgtaattt tcaaagtagt taattgagga    420
caaagggtta tgcagaagtg atagctttgg tttgctgagt cttgttttaa gtggccttga    480
tattt    485

```

<210> 287

<211> 340

<212> DNA

<213> Homo sapien

<400> 287

```

cctggagtcc aataaccacc ccctcatacc acaccctgtg catacaccag ccaagccttt    60
cctgggtctg gaagggaaga gaaaaaagac gcaggccacc tgggggttct gcagtccttg    120
gtcagtcacg ccttctatct tagctgcctt tggcttcgc agtgtaaacc ttgcctgcc    180
ggaggcagga ggcccagctg gacctccgag ggccatgaic aggcagcagc catcttgccc    240
tcaagcttgc ctttcccttg agtccctctc tccctcggc tctagccaga ggtgtagcct    300
gcagatctag gaagagaaga gctggggagg aggatgaagg    340

```

<210> 288
 <211> 290
 <212> DNA
 <213> Homo sapien

<400> 288
 aaacagtctc tcctcgggtg tctccttgtc aaactgttca tcccagtttc ctctgaaata 60
 gacagcattc accagaacca gccttgtaaa tggatccact gagcccgag agagcaactc 120
 cgcaatttta ccttctgtct tttcagctac ccagggtgtt atgtgttttc tggacttttc 180
 tacggcgctg ataaagtcaa gctcctccat ctctgcttgg tagaattttt ggcaggaatc 240
 tctaaaagat gagaggaaat cacaagactt ttccccaag agcctgttgg 290

<210> 289
 <211> 404
 <212> DNA
 <213> Homo sapien

<400> 289
 ccacccacgc ttaggttccc atcacactga tgactccggg tttggcgagc acaggagcgc 60
 aaaccttttc acattctttc tgtgatccaa atttgttttc gtttccacca caacctccat 120
 accagaatct tgcacagctt ttgggtgttg gatcatagta ccattttaat atgaaatccc 180
 tgcaagttcc ttcgtctttc ggcaacttgc atatatctgt ttcagtgaga gccaatgggt 240
 ctgtgctcac cattagattg atggttgaac tagaagctga ccttgctggc tgtggagggt 300
 ggggctgaga tttctttgta ctgaaacttc cgtggtagggt ggctctgacc tgagacctca 360
 ggtagcagac cacagccaca tggatatgtc gccacgcgag cagg 404

<210> 290
 <211> 384
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(384)
 <223> n = A,T,C or G

<400> 290
 ccaggcgctc ctgtcggca tcagggaggg tggccttgaa ctgctcatgg gctgtgggtca 60
 gtccctggat ctctcaatg gtgtgcacaa tgaagggtgc ctgcagggtc tccatggccc 120
 cctccatcca gttgttgaag ggtgcagccc gcttggcata ctccaagtac agctgggtcaa 180
 tgggtctccag cagtttctcg gtccgctcca gagcttccct tcgcttctga gttagggtccc 240
 ccagattgtc ccaactgtca cagatctttt ggcaacgggc gttgacactg ggtgagtcac 300
 aatantccag ctcatagagc tcctgtgcga tggcggcaat ctgctccaca cggctcctggt 360
 gggcagccag gccactctcg aagg 384

<210> 291
 <211> 278
 <212> DNA
 <213> Homo sapien

<400> 291
 aaagtttatt tttactatct ctttatcact ttattgtatc atcaccattg gtttcataat 60
 gtaaatacta tatgttgaac aaattaaatg tcaaaaattt ttattacctat agtccatgtt 120
 aatagtgggg ctttcagggt tttagagatt tttttgttg ttgttaacat tcattgcaaa 180
 agtactagat ggtgtataac tctagagttg aattttaagg gattccctaa tatgtatact 240
 atctttttat ctgaagtaat aaataaacia tgatcttg 278

<210> 292

<211> 177
 <212> DNA
 <213> Homo sapien

<400> 292
 ccttggccccg gtcatttcttg tccagtttga taggttcagg aaattcgttg tacagctcca 60
 cctccgtttc ctgcttaagt gcattccgtg caatcgtctg gaacgcctgc tccacgttga 120
 tggcctcctt ggcactggtc tcaaagtagg gaatgttggt tttgctgtag caccagg 177

<210> 293
 <211> 403
 <212> DNA
 <213> Homo sapien

<400> 293
 aaaaagaagg acttaggggtg tcgtttttcac atatgacaat gttgcattta tgatgcagtt 60
 tcaagtacca aaacgttgaa ttgatgatgc agttttcata tatcgagatg ttcgctcgtg 120
 cagtactgtt ggtaaataga caatttatgt ggattttgca tgtaatacac agtgagacac 180
 agtaatttta tctaaattac agtgcagttt agttaatcta ttaatactga ctacgtgtct 240
 gcctttaaat ataaatgata tgttgaaaac ttaaggaagc aaatgctaca tatatgcaat 300
 ataaaatagt aatgtgatgc tgatgctgtt aaccaaaggg cagaataaat aagcaaatg 360
 ccaaaagggg tcttaattga aatgaaaatt taattttgtt ttt 403

<210> 294
 <211> 305
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(305)
 <223> n = A,T,C or G

<400> 294
 aaagcaatct ggcattggtg cctgtagtga agcagaggat cataacataa gtaaaactctc 60
 tatgggtgga agttggagag aaggacattt tggctttgta catgaaaaga ctctccagat 120
 agaaacagat tctgcccata agtgaaataa aatgctttgt gggggtaatg agtgacttat 180
 agtattcagg cagatgttac ataactgcta attaaagttc cctggattga ntttanncaa 240
 anaattgaaa gtngattttg gtcangtgtc agnaaactac tgcctataaa cccatatcnt 300
 accca 305

<210> 295
 <211> 397
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(397)
 <223> n = A,T,C or G

<400> 295
 cctatctggt tggccttttt gaagacacca acctgtgtgc tatccatgcc aaacgtgtaa 60
 caattatgcc aaaagacatc cagctagcac gccgcatacg tggagaacgt gcttaagaat 120
 ccactatgat gggaacatt tcattcccaa aaaaaaaaaa aaaaaaaaaa ttctcttctt 180
 cctgttattg gtagttctga acgttagata ttttttttcc atgggggtcaa aaggtaacct 240
 agtatatgat tgccgagtgg aaaaataggg gacagaaatc aggtattggc agtttttcca 300
 tttncatttg tggngnaatt tttaataata atgcggagac gtaaagcatt aatgcnagtt 360

aaaatgtttc agtgaacaag tttcagcggg tcaactt

397

<210> 296
 <211> 447
 <212> DNA
 <213> Homo sapien

<400> 296
 ccatacctcga tgttgaagtt gtctgtggggc ccgaagacgt tgggtggggat gacagcgggtg 60
 aagggtgcagc cgtactgctg gaagtaggcc ctgttctgca cgtcgatcat cctcttggca 120
 tacgagtacc caaaattgct gttgtgggga ggccattgt ggatcatggt ctcatctatc 180
 gggtaggtcg tcttgtcagg gaagatacag gtggacaggc aggacaccac cttgcgggag 240
 cccacctcga aggccgagtg caggacgttg tcgttcatgt gcacgttttt cctccagaag 300
 tccaaattgt atttgatatt ccggaacagg cccccacca ttgcagcaag atggatgacg 360
 tgtgtgagtt ggaccttctc aaacagggcg cgggtctgtg ctgtatccgt gagatcggcg 420
 tcttttagagg agacaaacac ccagtcc 447

<210> 297
 <211> 681
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(681)
 <223> n = A,T,C or G

<400> 297
 aaataacagc atgtaaaata ttaaaatata agctttcaaa aataaatata taaataagta 60
 gaaccctcgt aagaaatagt caaacacatt aagtcctttc cagctgtccc tagaaagctg 120
 ctgttctctt tttcattttc agctctggta agggcaggga ccaccctgca ggaagtgtca 180
 atgatacgct gataagcttc ttacttctct cctgtcagtt ggtgctcccc ctgtgatgag 240
 aaaaggggta ctgttgcaagg tgctaaggaa ggctgctctt ctgtcactct gaagttgctt 300
 ggaggggatgt ccccatgcag actctctccc agccctccac tcagggaagg tctgtctgta 360
 cccactgcct tctatagcag aaaacttgca ctctgaatg cttttttttt ttttcaagaa 420
 agaagnggct gnggactcaa ctagattcctt ggtttgaaaa agccaaaaca tattgggtcac 480
 tgattgtcac attgggttag aaatgtccat tcatgatctc ccttaagctg cacacaaccc 540
 tatgaaataa ctaccattat ctaccctatt ttgctaaagc tcaaagagat taaataatgt 600
 tgacagggat cttagccttg aactcaactga agnggttact gcaaagttct gctcttcacc 660
 aagaaggnntt acaggccaaa g 681

<210> 298
 <211> 353
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(353)
 <223> n = A,T,C or G

<400> 298
 cctggcttaa gaccagacat ttgaagaagg ctccaggcag ggaaaggaaa ggagaggcca 60
 gccccacnct gnccctccc tgccccacg tctccagcaa cacaaggcgg ccagtggacc 120
 gtgaaccatt tatttccaaa ctataaagaa acctgctctc tgagaaaana cactgcccag 180
 gngatgaagc tccagcccct ggaggtccaa aaccagtc aaactcagtc cctttagaaa 240
 gctgctgtgc cttggaaatg annntcggnt gtcanagcct gggaagtggg gggaagaacc 300
 agcccactcc cctctcctgc tgcgattcca gcgcncgttg ggnccagatc tgg 353

<210> 299
 <211> 560
 <212> DNA
 <213> Homo sapien

<400> 299
 aaagttcaag gactaacctt atttatttgg gaaaggggag gaggaaggaa atgatatggt 60
 acccagacac tgggctaggc tgcaacttta tctcatttaa tactcccagc tgtcatgtga 120
 gaaagaaagc aggctaggca tgtgaaatca ctttcatgga ttattaatgg atttaagagg 180
 gcatcaatca gctcaactca agatttcata atcattttta gtatttagat tgtgcctcaa 240
 agttgtagta cctcacataa cctccactgg tttcctgttg taaaaacctt cagtgaagttt 300
 gaccattgtg ctcttggctc ttgggctgga gtaocgtggg gagggagtaa acactagaag 360
 tcttttagtac aaaactgctc tagggacacc tgggtgattcc tacacaagtg atgtttatat 420
 ttctcataaa gagtcttccc tatcccaagg tcttcatgat gccagtagcc atatatgata 480
 aattatgttc agtgataact tagttatcag aaatcagctc agtgggtcttc cccgccatga 540
 ttcacatttg atgagttttt 560

<210> 300
 <211> 165
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(165)
 <223> n = A,T,C or G

<400> 300
 aaaaactaca taggggtgtg tgtgtgtgtg tatgtttatt ttatacacac atatttgtat 60
 attctaatat attactaagg caattttaat gaattacat gtatataaaa aaatatctgn 120
 cacttggcac acagggttgt atgtatgtgt atatatatat gtatg 165

<210> 301
 <211> 438
 <212> DNA
 <213> Homo sapien

<400> 301
 aaaatatatg tatttaaaaa caaaaagcaa cagtaatcta tgtgtttctg taacaaattg 60
 ggatctgtct tggcattaaa ccacatcatg gaccaaattg gccatactaa tgatgagcat 120
 ttagcacaat ttgagactga aatttagtac actatgttct aggtcagtct aacagtttgc 180
 ctgctgtatt tatagtaacc attttccttt ggactgttca agcaaaaaag gtaactaact 240
 gcttcatctc cttttgcgct tatttggaat ttttagttat agtgtttaac tggcatggat 300
 taatagagtt ggagttttat ttttaagaaa aattcacaag ctaacttcca ctaatccatt 360
 atcctttatt ttattgaaat gtataattaa cttaactgaa gaaaagggtc ttcttgggag 420
 tatgttgtca taacattt 438

<210> 302
 <211> 172
 <212> DNA
 <213> Homo sapien

<400> 302
 ccaaaacagg agtcctgggt gatatcatca tgagaccag ctgtgctcct ggatggtttt 60
 accacaagtc caattgctat ggtaacttca ggaagctgag gaactggctc gatgccgagc 120
 tcgagtgtca gtcttacgga aacggagccc acctggcatc tatcctgagt tt 172

<210> 303
 <211> 552
 <212> DNA
 <213> Homo sapien

<400> 303
 ccagcctggt gcaggctgct tcgtagcggg cgtcggtgc ggacttcct tccccgggtct 60
 ggatcttttc atcctaccag atgagaaagg gaatgagtga atggagtgc cccgcaccct 120
 gtcactttcc tgagacatga ctgccaggaa gaagagctgc tctggctcc atcagggctg 180
 gcaggacaaa ctgaccagt agtcagtagg cagagttcac actgaaaaag ggcacaaggg 240
 ctgtcccaca atgggaggaa atgggggtctc agaacttcta cttctctgaa aactaagaca 300
 caattgggac aaccaccacc cccgtgtgag atttctcacc tcgagacagg acaagatgaa 360
 gttcacggct tcttctgggg taaagacctt gaagagccca tcacaggcca acaaaatgaa 420
 cctacaacac caggagagaa tataaacggg ttttagcccc aaccaaaaaa taaaaaataa 480
 aaaaagggcc tggagatgga gataaaataa atatttgtcc aactattcaa aggctaagg 540
 ttttttttct tt 552

<210> 304
 <211> 601
 <212> DNA
 <213> Homo sapien

<400> 304
 cctttgatgc ttggtagtac attgcatgta aaatgtttat aagaagctac ttttccttca 60
 tgggaagaaa ttcccacatg agattcataa attcttagac tccgtggctt ctttgggtccg 120
 gaatgctttaa actcatatga gtgttctgga tcccagtgta tccaatcata attcacatta 180
 tcaccttcac gaaccacata ctttgccac ggtgaaatac gatacaagat ctctccgctt 240
 ttactagtaa taactacctt taatttggat ccatgaggca cgagtacaga tttattctgc 300
 tttggtggga tatacagctc ccattttcca taatccagtt ttttgtatgg gtacgaaaat 360
 ggattccaac cattaaaatc tccagtaaga aaaactcctt ctgctcccgg ggcccattct 420
 ttgcagtata aaccaccatc agcacatctg tggacgcca atgattcata gcctctggaa 480
 aacttatcaa taccaccttc attttctcca atgttcttca aaatttggct aaactgctta 540
 tacctgcgct ggaagtccac ggcgtagggc ttcaagtacc ggtcgatctc caggagtctg 600
 g 601

<210> 305
 <211> 401
 <212> DNA
 <213> Homo sapien

<400> 305
 aaataacagc atgtaaaata ttaaaatata agctttcaaa aataaataca taaataagta 60
 gaaccctcgt aagaaatagt caaacacatt aagtcctttc cagctgtccc tagaaagctg 120
 ctgttctctt tttcattttc agctctggta agggcaggga ccacctgca ggaagtgtca 180
 atgatacgct gataagcttc ttacttctct cctgtcagtt ggtgctccc ctgtgatgag 240
 aaaagggtta ctgttgacag tgctaaggaa ggctgctctt ctgtcactct gaagttgctt 300
 ggagggatgt ccccatgcag actctctccc agccctccac tcagggaagg tctgtctgta 360
 cccactgcct tctatagcag aaaacttgca ctctgaatg c 401

<210> 306
 <211> 313
 <212> DNA
 <213> Homo sapien

<400> 306
 aaactgacta tggattcctt gaaggtctgg cagttgttga tgatggcgat catgtactga 60
 acgtagcagt gagggtgctg ccgattcctc aggtgctctt ctttatacag ctgcgcttca 120
 tctttatatc tgaggacaga caggcttcgg tcagacagca ctaagggcaa catggagctg 180

tttcaaatgc cagcgtgacg tcacgcctgg cctgaaatth cacaatcata acatctgacc	240
ggatgagcct ctaaaaataa aacaatctth agacgatcca gactaatgga aggacagaga	300
ggttgattac tth	313

<210> 307
 <211> 366
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(366)
 <223> n = A,T,C or G

<400> 307	
aaagatgctg ntaatgaaca ttacggacaa ttcattggtg ggctagtthg taacactthca	60
gctgattthth cttatgagat ggaaaaaaa aatcagccaa gtaagggcac atctthcacth	120
catttataag tcagcatcca aggtaaaaga attctctgth ggactthgaca thactcccat	180
cctctgatac tcgcctactc thththcaaa gaagthgth cththctthcc antgaaatth	240
ththcaaaaa gtcaaatggg ththththctc tgaaaacth gthaaaacc aaththcagca	300
taagththgth thncacaaac ncaatgnath gththcathaa antgcaathc atcccaathg	360
gththc	366

<210> 308
 <211> 534
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(534)
 <223> n = A,T,C or G

<400> 308	
ccagctatca gctgatcgtc thctgtctgg acgctcgtcc tgctthctgac atcaaaatct	60
thctgtctcaa agtcagagth atccaaactcc tcaggggtcc ththctatcag cactgctthc	120
ctgatgtccc ggatgccatc atataaccagg cgggaagcat cgataaaactc attctcatcc	180
atgggctggg cagggtccga gctgagggct thcacggctg cththctactg thcagtaaaa	240
cgtggcatga ctgtgtthga gacgagctta gtggtthcca gaactthctc thgtgtagact	300
cctggctcat agtcgtccat ctctgaggtg actacgtgaa tgaccggggc tgcccggtc	360
cgaattgcac cagctgtgag gccaggccat ccacatccth ctctthggaga gcaatgacac	420
atthggctcac atctthcaaa atgtgattct ctgagacagc caagaagtca thaatggaag	480
thaatgncatc gacagcatct gtgagaacac cgactthgth ththcattgth cthth	534

<210> 309
 <211> 164
 <212> DNA
 <213> Homo sapien

<400> 309	
catactcctth acactattcc thctacacca actaaaaata thaaacacaa actaccact	60
acctccctca ccaaagccca thaaaaataaa aaattataac aaaccctgag aaccaaathg	120
aacgaaaatc ththctgctth attcattgth cccacaathc thg	164

<210> 310
 <211> 131
 <212> DNA
 <213> Homo sapien

<400> 310
 aaaaatcatt tatcttttcgg tgcttcaaca tgatgccaaa caaaaatcta ctgaataaaa 60
 atagcaagga aggggaatcaa acatttataa gatataatta ttatttttct gaccaaagtg 120
 caatgatattt t 131

<210> 311
 <211> 626
 <212> DNA
 <213> Homo sapien

<400> 311
 cctatgtgcg ccagttttcag gtcacgcaga accagaacct cctcttcgag ctctcctaca 60
 agctggaggc aaacagtcag tgagagtggg ggctccagtc agaccgcga gatccttggg 120
 cacctggcac tcaagcactt tgacgatgt ctcaaccaac atctgacatc tttcccgtgg 180
 agcaacttcc tgctccacgg gaaagaggtc gatggattta cccctggacc cataagtctg 240
 ttcacctcgc tgaagtcccc tccccattgc tccttcaagc caaaactaca ctttgctggg 300
 tcctgtcccc tctgagaaa gggatagaaa gctccttcct ctatgtcctc ccacgcagat 360
 ctgttctggg gatggagctt ccaacttcct cttgcagcag gaaagaatgc tgcaccct 420
 tctgtcttgc agagtgggat tgtgggaggg attggcagcc ttcttctcca ccacctgtcc 480
 agcttctcctc tggtcagggc tgggaccccc aggaatatta tgttgccgtg tgtgtgtgtg 540
 tgtgtgtgtg tcttctttta gggagcagga gtgcacctgg taattgaggg tagatgttgt 600
 gtgtgctggg gaggggtcct tctgtt 626

<210> 312
 <211> 616
 <212> DNA
 <213> Homo sapien

<400> 312
 aaaccaaaga aattaagaaa aaagacttca ttgcttgaat gacgcgaaca gctgtctgag 60
 tcacctagac tttaacacca cctggggccc tgggaatgac gctgacgaga gatctgcaca 120
 tagtaggcgt gggctccaaa tgtgctcatc agctgacttc acatcctcac aagtcagcct 180
 cagatatgac ccaagggata cgtaccatct cttcttgaaa cagcgtgtca aattatata 240
 atgtatgcaa aaaagagtaa tgtactaagc aaaccaagtt tctgtctttt cttctgaatc 300
 tggttttaat gtgacctgtc atccccatct ttcgaattta tgagctocat cttctctaga 360
 ctgttaactt cttgaggaaa acatgctatt ttaccacctt tcaactgctga atccctagcc 420
 cttagcaca gtctctggca cagaataaat acgaaatgaa tgagtgaatg aatggatgga 480
 tgggtgaaga gaaaaggcaa tgcacaagat ttacctatca aaatccacca atggctctta 540
 aaaatggttt tgtcagtaga gatgctgaat atattcataa aatacattta tttcaatact 600
 attaagaatt ctagt 616

<210> 313
 <211> 553
 <212> DNA
 <213> Homo sapien

<400> 313
 aaaaaatggc agcattgtac ttgaatcaga aagcttactg ggatttcctc atcgaaagta 60
 gagattgcag ctaatcctag taccttttgt tagtaattac ttaaggcaca gtgcaaagtt 120
 gaaggactgt tttggtacaa actcaagcca gctacatgta tgcttgccct ggtatccttg 180
 ctagagcaca tgcgggtata ataccgtatt atacacaaca aggccaccct gttgtatctg 240
 tgttacaatt aaacatcagt cccagaaaag gaacctagt catttattat aggtgccac 300
 ctctgacttg gaacaaaatg ccactccatt catgttcatt tttgtccttg agaggattta 360
 tttcctaaaa gattctgaaa gccacaaat caatgtagtt cttcatagag aacttaagag 420
 taaggctcaa aatggcctca aatgggctt cttggatgac ttccaacagt gactggcctt 480
 ctcaacactg cagatgtctg agcactacca taacctaacg aagtgaggaa ggaggaggca 540
 aattggtatt ttt 553

<210> 314
 <211> 330
 <212> DNA
 <213> Homo sapien

<400> 314
 ccagcgactc cagcgggtggc agcaggcagt gcacgtactc tgggcctccc accagggtag 60
 tgaaggttcc cagctgttct gccagggcca ggaggacctc atcttcatca tagatggtat 120
 ctgtaaggaa aggcagaagc tcacttcggg tcctttcaac cccaagggcc aaggcgatgg 180
 tggacagctt cttgatgctg ttgaggcgaa gctgaacgtc ctcatcgcg agttcgtcta 240
 tgagcaccgc gatggggtac agcagtcgt cgccgtcggc cgccgccatc ttggctccgt 300
 ccctttcctg tcagactgcg gccagcgctg 330

<210> 315
 <211> 380
 <212> DNA
 <213> Homo sapien

<400> 315
 aaaaatgaca ttgcgttttag cttattgtaa gaggttgaac ttttgtattt tgtaactatc 60
 ttttaagccct tcagtttata attcatataa aatgcctttt gtatttaaaa taatcctatt 120
 ttaatcagtg catgaaattt gcttttttaa agttcatttg aatgattatt ccttcctct 180
 aaagaaatga ttttggtaat gttgagaggt acctaccac aaatcctaac tgtaagtgt 240
 ttcattggtta ttttcaaaag aattatgact cttcccaaaa agaatcctaa aaaacttgta 300
 ataaacctat aaagctgatt tgcataatca caaaattttg aatagcaaat ataggcaact 360
 catatatgta tataattttt 380

<210> 316
 <211> 222
 <212> DNA
 <213> Homo sapien

<400> 316
 aaactacaga gggttttcca gctattattt ctttagttt ctaaaagtaa cgacttatat 60
 taatgtttta taaaagatag tgatgaaaaa aaggtaatgc tgaaataaag gcgcttttag 120
 aaatatttaa ggacaacata aggtattaat attggaaaaa aactgtacat attttcaagc 180
 acaacactga aatattgcag cagtgtttta ctgaattgtt tt 222

<210> 317
 <211> 490
 <212> DNA
 <213> Homo sapien

<400> 317
 ccttgaatga gcgtggagag cgattaggcc gagcagagga gaagacagaa gacctgaaga 60
 acagcgccca gcagtttgca gaaactgcgc acaagcttgc catgaagcac aaatgttgag 120
 aaactgccta tcctgggtgac tcttcttaag agaaactgaa gagtttggtc agcagttttt 180
 acaagaattc gggacctccg cttgcttctt tttttccaat atttgacac ttagagtgg 240
 ttttgttttt tcttttcaga tgtaaatgtg aaagaaaggg tgttgcatth ttacatttcc 300
 ctaatgatct tgctaataaa tgctacaata gcatcggctt cattttgggt ttttgcctcc 360
 tcccactgtg tgtatgtgtg tatatgtatg ttttgaatat gttttcttta ttaaaaaata 420
 tttttttag tttgaatatg aaatttggac caaatgataa actgcgctga gtctaaactg 480
 gcaacatgta 490

<210> 318
 <211> 340
 <212> DNA

<213> Homo sapien

<400> 318

cctggagtcc	aataaccacc	ccctcatacc	acaccctgtg	catacaccag	ccaagccttt	60
cctgggtctg	gaagggaaga	gaaaaaagac	gcaggccacc	tgggggttct	gcagtctttg	120
gtcagtccag	ctttctatct	tagctgcctt	tggttccgc	agtgtaaacc	ttgcctgcc	180
ggaggcagga	ggcccagctg	gacctccgag	ggccatgagc	aggcagcagc	catcttgcc	240
tcaagcttgc	ctttcccttg	agtcctctc	tccctcggc	tctagccaga	ggtgtagcct	300
gcagatctag	gaagagaaga	gctggggagg	aggatgaagg			340.

<210> 319

<211> 373

<212> DNA

<213> Homo sapien

<400> 319

aaagatgctg	ttaatgaaca	ttacggacaa	ttcatggtgt	ggctagtgtg	taaacacttca	60
gctgattttt	cttatgagat	ggaaaaaaa	atcagccaag	taagggcaca	tcttcagttc	120
atrtagaagt	cagcatccaa	ggtaaaagaa	ttctctgttg	gacttgacat	cactcccatc	180
ctctgatact	cgcctactct	cttctcaaag	aagttagtct	ttccttccag	tgaatatattc	240
tccataaagt	caaattgggtt	ctctactctg	aaaaccttgc	taaaaccag	ttccagcata	300
agtctgtctg	ccacaaactc	aatgtattgc	ttcattagag	tgcaattcat	gccaatgagc	360
ttcacaggca	agg					373

<210> 320

<211> 509

<212> DNA

<213> Homo sapien

<400> 320

aaaaacaaaa	ttaaattttc	atttcaatta	agaccccttt	tggcattttg	cttacttatt	60
ctgccctttg	gttaacagca	tcagcatcac	attactattt	tatattgcat	atatgtagca	120
tttgcttctc	taagttttca	acatatcatt	tatattttaa	ggcagacact	gagtcagtat	180
taatagatta	actaaactgc	actgtaattt	agataaaaatt	actgtgtctc	actgtgtatt	240
acatgcaaaa	tccacataaa	ttgtcattta	accaacagta	ctgcacgagc	gaacatctcg	300
atatatgaaa	actgcatcat	caattcaacg	ttttggtact	tgaactgca	tcataaatgc	360
aacattgtca	tatgtgaaaa	cgacacccta	agtccttctt	tttaaaaatg	acattgcgtt	420
tagcttattg	taagagggtg	aacttttgta	ttttgtaact	atctttaagc	tcttcagttt	480
ataattcata	taaaatgcct	tttgtatttt				509

<210> 321

<211> 617

<212> DNA

<213> Homo sapien

<400> 321

ccaaggcccc	ttttgcagcc	cacggctatg	gtgccttccct	gactctcagt	atcctcgacc	60
gatactacac	accgactatc	tcacgtgaga	gggcagtggg	actccttagg	aaatgtctgg	120
aggagctcca	gaaacgcttc	atcctgaatc	tgccaacctt	cagtgttcga	atcattgaca	180
aaaatggcat	ccatgacctg	gataacattt	ccttcccca	acagggctcc	taacatcatg	240
tcctccctcc	cacttgccag	ggaacttttt	tttgatgggc	tcctttattt	ttttctactc	300
ttttcaggcg	cactcttgat	aaatggttaa	ttcagaataa	aggtagactat	ggatataatt	360
gagccctctg	gtccaggctc	cagttttacct	aattattacct	cagaaaaggat	atggaggggaa	420
gatgatcttt	ttgccaggtc	tgacttttct	tcctgtcccg	ccctccatta	acgctcagta	480
cccttttagca	gctgacggcc	ccacgttcta	ctccatgctt	ggcttccctt	ccaactagct	540
ctttcatata	ttttacttgc	tagtatctcc	attctctcta	aagtagtggt	tctttttgcc	600
cttaaaccta	aatttttt					617

<210> 322
 <211> 403
 <212> DNA
 <213> Homo sapien

<400> 322
 aaaaagaagg acttaggggtg tcgtttttcac atatgacaat gttgcattta tgatgcagtt 60
 tcaagtacca aaacggttgaa ttgatgatgc agtttttcata tatcgagatg ttcgctcgtg 120
 cagtactgtt ggtaaataga caatttatgt ggattttgca tgtaatacac agtgagacac 180
 agtaatttta tctaaattac agtgcagttt agttaatcta ttaatactga ctgagtgtct 240
 gccttttaaat ataaatgata tgttgaaaac ttaaggaagc aaatgctaca tatatgcaat 300
 ataaaatagt aatgtgatgc tgatgctgtt aaccaaaggc cagaataaat aagcaaaatg 360
 ccaaaagggg tcttaattga aatgaaaatt taattttgtt ttt 403

<210> 323
 <211> 298
 <212> DNA
 <213> Homo sapien

<400> 323
 ccagaattag ggaatcagaa tcaaaccagt gtaaggcagt gctggctgcc attgcctggt 60
 cacattgaaa ttggtggcctt cattctagat gtagcttggt cagatgtagc aggaaaatag 120
 gaaaacctac catctcagt agcaccagct gcctcccaaa ggaggggcag ccgtgcttat 180
 atttttatgg ttacaatggc acaaaattat tatcaaccta actaaaacat tccttttctc 240
 ttttttcctg aattatcatg gagttttcta attctctctt ttggaatgta gatttttt 298

<210> 324
 <211> 78
 <212> DNA
 <213> Homo sapien

<400> 324
 ccatgggaag gtttaccagt agaatccttg ctaggttgat gtgggccata cattccttta 60
 ataaaccatt gtgtacat 78

<210> 325
 <211> 174
 <212> DNA
 <213> Homo sapien

<400> 325
 ccatcatggt caggaactcc gggaagtcaa tgggtcccgtt cccatctgca tccacctcat 60
 tgatcatatc ctgcagctct gttcagtggt ggttctgtcc cagggatctc atcactgtcc 120
 ccaactcctt ggtggtgata gtgccatctc catccttgtc aaagagggag aagg 174

<210> 326
 <211> 679
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(679)
 <223> n = A,T,C or G

<400> 326
 aaaactgaaa tacctcttaa aataatttga tccccagcgt ttgctctttt tgaagtaacc 60
 aacttactct taaaaaggat ggntgccaa atggaaagtc ttactgggtt ttcattgttaa 120

```

cctattcttt ggacataact atgaattttg tatacaatgc acttcatgaa aagttgtggc 180
tccccagat tgccacaag tgtgatcttg aagtcctaaa catttgtcca tgaagcttc 240
aaaacagcgt taactgagtt attcaagtag cagtacttaa agatacaatt cttgaagcag 300
tttcaatggg ttctgatcca aataatcagt ttctgaacat tactacttca cataatagag 360
tccatcttca gtttcttctc actttctctt tcccttttg gtttctttt tgtggcctga 420
ggccaccagt tctttgggta ctatcaagat acttccatca tgggtacact ggagagcata 480
gtggttggga ttgactggcc taccttgggc atctcttaat ctactaaaaa tatcatgata 540
aaggtcatgc agtttctggt tcattatggt aatagctttg gtacattgtg cttgctctct 600
cttaanagtt tccttctttg cttgcaagtt acatacatca tcttctaaat tcaaaattat 660
gtccattttg gcgtttacc 679

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<210> 327
<211> 619
<212> DNA
<213> Homo sapien

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<220>
<221> misc_feature
<222> (1)...(619)
<223> n = A,T,C or G

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```

<400> 327
aaaataagtt actggtaaat ggagttgcat tctatagtca ctttaataaat attaacaaaa 60
tatttataac tggaacctta atgaaatgta tcatcaaatc aggtaaaagc aacttgtccg 120
cagttaccaa agcctanata cgcgttagat gcgccttttc cggcctgtgc gtctgctctg 180
gttcctctca ggcagcaaag ctggggaagg aagctcaggc aggagcctcc cgcacgccac 240
aacggcaca gacagagcta aagcaccgca ctttgcctta ctaacctttt acttaaatga 300
ggttttgcca aatccacatc tggaaccgcg tcacacccat ttgcaaggat gtttgttctt 360
tgatgaaact gcatctctac tgcacatgag ggctttcatt gtaggacaag aggagagttc 420
gtttattttt gtaactgttt tacatgttcc gattagttaa tcggtagctt atgtcatttg 480
ctatgcctgn agncttctaa tctctcctta ctaaaacatt acttcaaatt tgaattgacc 540
cttggttata atttatttag ccgggatttg tgtgtcattg tagagcaact ctaattcaag 600
aatagtgaac acttttaag 619

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```

<210> 328
<211> 132
<212> DNA
<213> Homo sapien

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```

<400> 328
aaatccaaat acaaaagcat agtctctgca agattttgtt ctttgaattt cttgatattg 60
taattgatta ttgataactg tcatcatgaa attatctctc aataataaga taaataaact 120
agcatatgaa tc 132

```

```

<210> 329
<211> 854
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(854)
<223> n = A,T,C or G

```

```

<400> 329
ccttgaggta actattgcaa aatatacagt gtaagttcag tctgatggaa accccagatt 60
catcaaggat acaaatctac agtagcccaa tggcggttcc atagtgtata atttattatc 120
aataaaatta actccgttac aatcagcatt catttctctc aattaaaatt aagcataaac 180

```

cctaggtagt	aaccttctgc	acatatgtat	agctccgaat	ttcctcactg	ttcgtctggt	240
gcaaaaacaa	tattcaagct	tgtctgatta	tgcatatttt	ctttaatcat	atagattata	300
tatacaatag	acaagacagg	actatataga	taatggacag	acttaaagtc	ccgcattttt	360
aaggtggaga	aaatgatgaa	tctatgcac	cccgagaaca	cttaaaattt	ttttttattt	420
cactgggaaa	ttcttacagc	tactttacaa	tcatagggtta	acagcctagt	tatacagaag	480
acatatccca	ctacagagct	atactctatg	caactgtttt	ttcccctcat	aaacaacctg	540
agttcaaatt	gaattctatc	ttccacaatc	acaatgggtg	catcaccag	tacacagaag	600
tttgaatcac	aaaacataat	taccacaata	aaacacagtg	ttcaagtatc	ttggcagagc	660
aatctgccgc	acaaactgca	aattaaatta	actacacaga	ctaaaaacta	tacagcctac	720
catcacagtt	gtgcattata	aaaaaggag	tttctttcct	ttgggtttta	gtcaggaaca	780
gggtaggatt	ttttaccctc	nggccgggga	ccacgctaaa	ggggcgaaat	ttcttgccan	840
natattccnt	tcac					854

<210> 330

<211> 299

<212> DNA

<213> Homo sapien

<400> 330

ccaatgaata	actgacttta	taatcctggg	caatcagctt	ttggcgggtt	gtaagtgctt	60
ctcgacactt	ttcactcatg	gattcttcaa	atztatgggt	aaagaggcac	ttatacactc	120
tgccctcacc	agcttgtgta	ttttcacaaa	aacgctcccg	atcatctcgg	caagcaaaat	180
ataaatgccg	gtctaagtga	aagtcacccg	atgacagctc	agccaccggg	agaatggctt	240
tcttgacagag	ttcagaaaact	tgaatcttgg	gttctctttc	ttctgcttct	ttcaccagg	299

<210> 331

<211> 573

<212> DNA

<213> Homo sapien

<400> 331

aaagatatga	acagcttaat	tttccgtgtg	attatctaata	taaaaaagaa	aaacaaaaca	60
agcaaaatgt	tcaagttaaa	aaaaaaaacat	accgggtgag	caatgcacta	aaattatcca	120
catgaaaaca	aatgggtctgt	aatcttataa	accaacatag	catttcactg	tcaacaatgt	180
gaaaatttaa	tatcttctca	aacaggcata	agatgaagaa	gtgctatttt	ttaattgtaa	240
aaggaactta	tgtaatgtaa	aattacatta	taatttttca	ttccgaattg	acaaatgatt	300
tcaaaaacaa	ggatcaaagt	ttgactgcaa	atagtaaatgc	aatataattt	cataaaaaatc	360
cttcaatttc	tatttttttc	cttttctgta	gttgacatat	gaagaccact	tcaattttcta	420
aaaaagggaa	ccattccaat	tttccctccc	caagaaaatg	tctcacaatt	acaaagtaga	480
aaaacagccg	ttcataaatg	caaaaaaatt	ctgattttata	tatgaaataa	tttctagatc	540
aattcaacat	atttgatgac	atttgttgag	ttt			573

<210> 332

<211> 555

<212> DNA

<213> Homo sapien

<400> 332

aaatttgaaa	gttgtaagca	ctgatgttaa	tgtgattgat	cagcatgggc	atatgtaaaa	60
tgctcttttc	tggttgcttc	tctatgctat	tgtgttcaga	tacttacacc	ataattaaac	120
agtaagttaa	agacttgctg	agtttggcat	agatagtgcg	ctcattttaa	ctgtgcctct	180
caaaacttca	gaatattagc	atattaccac	aaataatttt	tggtgaaact	attgagatat	240
taaaattttt	gaaatcacta	ctgttacctg	ttatagaaaa	tagtggtggc	ttagtctagt	300
ctctgtgtaa	ctggttacat	tttgatgggt	gtctatactc	aactggatat	gtgtatgtaa	360
attagaaaat	acatacctat	ccagacataa	atgctaagta	acattttttt	cttcctccaa	420
ctacataatt	tgtagctcat	catttttctc	taatcctttc	ctaacttgct	gcagcagttt	480
gaatttccca	gatatttatg	tttgaacata	atggctcaga	atacatattt	gaacatcata	540
gttgatatata	ttttt					555

<210> 333
 <211> 460
 <212> DNA
 <213> Homo sapien

<400> 333
 aaattttcttt caacagtota ttgggggtcca aaaagcatat atcaaaacaa aaataacaaa 60
 agcaaaacaa aatgctacat gtaaaagcta aagaaagaaa atgcagcata ttcaggttct 120
 ttttcttgag gtacctatat aaatttaatc acctgcccc aagtcctctc gttagggttaa 180
 aaacacaatg cgtcctgggg agccaattgc ccggcacgtc ttattactga gaaagtgcaa 240
 gaatgctgat catcttatgc agcatactaa aggatgattt actctttaca aaatagagct 300
 taagtatcaa cctgatggaa gttagaaaat taaaacatt taagtagaat catctctctc 360
 tctatttttg agatcctgca gcaaaaagcc tcccaaatca actttcaaag ttctgccatt 420
 aaggaaatgtt ggttctcttg taaaattcag agatctcttt 460

<210> 334
 <211> 190
 <212> DNA
 <213> Homo sapien

<400> 334
 ccaaggaagg ctgtgtctta gcccatctga cctgtgtctg aaaccacctg ggggacaagg 60
 ctgatagaga cctgtgcaga tgtctctctc tgtgccccctc actcatctca ctggatctgt 120
 ctgccaaacc tgagatcagc tgtgccagct tggaagagct cctgtccacc ctccaaaagc 180
 ggccccaagg 190

<210> 335
 <211> 394
 <212> DNA
 <213> Homo sapien

<400> 335
 aaatttggac agacttctag cggacagtta cttctcaaga attttctata caaaagctgt 60
 gccaggcata tattttctca ccaggacaca tggggcagcg gaccctggt gtcagtaaga 120
 acacaccag aatgatataa ccagatattt ttcagtttct aaattaaggc atattcaaaa 180
 aattccatgt acaagtttac accacttttc taagtactc accaggtaat taaagcagat 240
 tcacagatga attactctca gtttaactat atgcaacaac catgccaata acttttcttc 300
 taaattttgc ataataatgg ttaaaaaaag tggtagttaa actatcatgt tcacaattgt 360
 catttttcaa ggcagtagaa gaccaagaca tttt 394

<210> 336
 <211> 429
 <212> DNA
 <213> Homo sapien

<400> 336
 aaaagctatc accattgtag tagaatcatc cttctttttt gaaatttgaa gcatcccagg 60
 cttaaaatct tgtgtttcag aaagacagtt tataccatga ctgcttaatt atcccccaa 120
 agaccttctg attgaagtca tgtacagttc agtggcctaa attctctgcc tttttaactt 180
 gctttgcaag cctactctga aaataagtta tttagtcaag ttattctcaa agatgtccca 240
 gttgcctaga aaggatcaaa tggaacattt gacacacata ctcaaaaaaa tgtaactgac 300
 tataaacact ttaacctaatt catctgtatc aaactttcta aaaatcaaat ctcaggattg 360
 ttccacttta gagattctat gtaaagttaa tataactata cttgtcaaat agcacctatc 420
 tatgcattt 429

<210> 337
 <211> 373

<212> DNA

<213> Homo sapien

<400> 337

aaagatgctg	ttaatgaaca	ttacggacaa	ttcatgggtg	ggctagttgg	taacacttca	60
gctgattttt	cttatgagat	ggaaaaaaaa	atcagccaag	taagggcaca	tcttcagttc	120
at tttagaagt	cagcatccaa	ggtaaaaagaa	ttctctgttg	gacttgacat	cactcccatc	180
ctctgatact	cgcctactct	cttctcaaag	aagttagtct	ttccttccag	tgaaatattc	240
tccataaagt	caaattgggtt	ctctactctg	aaaaccttgc	taaaaccag	ttccagcata	300
agtctgtctg	ccacaaactc	aatgtattgc	ttcatcagag	tgcaattcat	cccaatgagt	360
ttcacaggca	agg					373

<210> 338

<211> 366

<212> DNA

<213> Homo sapien

<400> 338

ccatccccctt	atgagcgggc	gcagtgatta	taggctttcg	ctctaagatt	aaaaatgccc	60
tagccccactt	cttaccacaa	ggcacacct	caccccttat	ccccatacta	gttattatcg	120
aaaccatcag	cctactcatt	caaccaatag	ccctggccgt	acgcctaacc	gctaacatta	180
ctgcaggcca	cctactcatg	cacctaatg	gaagcgccac	cctagcaata	tcaaccatta	240
accttccctc	tacacttatc	atcttcacaa	ttctaattct	actgactatc	ctagaatcg	300
ctgtgcctt	aatccaagcc	tacgttttca	cacttctagt	aagcctctac	ctgcacgaca	360
acacat						366

<210> 339

<211> 319

<212> DNA

<213> Homo sapien

<400> 339

ccttccctcc	ccaccacat	caacctcttc	aaaacctact	ccctccctct	aagtatctct	60
caacacagta	tgtctggggc	tagattttcaa	aaccacgta	atgaaaaagt	cagttttaca	120
agcctaattt	tgttggtttt	ttttttatat	caattaacgt	taaaaattgc	atcaactatt	180
taattcatga	ggatctttca	tattaaaatt	taaccttaag	attcaaccgc	catgtgcttt	240
tataaaggaa	acatttttta	gagacgtctg	agctcacttt	tacatggtgg	tgctactgc	300
cgttaatggt	tgtgatttt					319

<210> 340

<211> 278

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(278)

<223> n = A,T,C or G

<400> 340

ctaataaaaat	gaattaacca	ctcattcatn	natctaccca	cccnatccaa	catctccnca	60
tgatgaaacn	ncggctcact	ccttgggccc	tgctgatcc	tccaantcac	cacaggacta	120
ttcctagcca	tgactactn	accagacncc	tcaacngcct	tttnatcaat	ngnccacatn	180
actcganacn	taaatnatgg	ctgaatcatc	cgctacctnc	acgccaatgg	cagcctcaat	240
attcttttatg	ctgcctcttc	ctacacatgc	gggcgagg			278

<210> 341

<211> 400

<212> DNA

<213> Homo sapien

<400> 341

ccagcatggg gctgcagctg aacctcacct atgagaggaa ggacaacacg acggtgacaa	60
ggcttctcaa catcaacccc aacaagacct cggccagcgg gagctgcggc gccacctgg	120
tgactctgga gctgcacagc gagggcacca cgcctctgct cttccagttc gggatgaatg	180
caagttctag ccggtttttc ctacaaggaa ttcatgtgaa tacaattctt cctgacgcca	240
gagaccctgc ctttaaagct gccaacggct ccctgcgagc gctgcaggcc acagtcggca	300
attcctacaa gtgcaacgcg gaggagcacg tccgtgtcac gaaggcgttt tcagtcaata	360
tattcaaaagt gtgggtccag gctttcaagg tggaagggtg	400

<210> 342

<211> 536

<212> DNA

<213> Homo sapien

<400> 342

aaagaacaat gggaaaaaca agtccgtgtt ctcacagatg ctgtcgatga cttacttcc	60
attgatgact tcttggctgt ctcagagaat cacatttttg aagatgtgaa caaatgtgtc	120
attgctctcc aagagaagga tgtggatggc ctggaccgca cagctgggtc aattcgaggc	180
cgggcagccc gggtcattca cgtagtcacc tcagagatgg acaactatga gccaggagtc	240
tacacagaga aggttctgga agccactaag ctgctctcca acacagtcac gccacgtttt	300
actgagcaag tagaagcagc cgtggaagcc ctcagctcgg accctgccc gccatggat	360
gagaatgagt ttatcgatgc ttcccgcctg gtatatgatg gcatccggga catcaggaaa	420
gcagtgtgta tgataaggac ccctgaggag ttggatgact ctgactttga gacagaagat	480
tttgatgtca gaagcaggac gagcgtccag acagaagacg atcagctgat agctgg	536

<210> 343

<211> 646

<212> DNA

<213> Homo sapien

<400> 343

aaaacttcta ttcatacaaaa gacataaaga aaacagtcaa gccacagact aggtgtaata	60
totcaataca tatatccgac aagagaattg catctagaat gtataaagaa tttctatgac	120
ccaattatag ctatcaggga tatacaaaatt aaaacccaaa tgaaacatca ctacacaccg	180
attggaatgg ttaaaaagga aaaatactga caacaccaat atttgtaaag acaggaggta	240
ccagaactct cattcattat attcataaat tgacaaatat aaaaactgct atagtagggc	300
agtcttcctt agaaaaggat tgtgggcatg acagagaaca atattaatct gtccattata	360
ttccttaact gtaaaatgga gaccatatgt tccaccagct tcaattggta attatgatac	420
atggctatta agagactcaa atgactccat ttcatacaat aatatgccct gtcaattcta	480
cttctaaaagt atcccatgtt ctatccaatg tcataccact atcataattt aagtgttcac	540
aactctctat aatatttcaa taatctaact ggtctcaatg cctgtagtag aaattgcaga	600
ttgggtccc caatttctgt tccctaggaa ggctgagaaa gctttt	646

<210> 344

<211> 383

<212> DNA

<213> Homo sapien

<400> 344

cctgcacccc agtataaggg cctccccagc tgagtaagaa gctgcttccc ctctctcat	60
aggccaagcc tattgtgtga aaccatctca tgggtcttgg gacgtagacc atttttgaaa	120
ccgtctcatg gtcttgggtga cgtagaccgt ttgcttcttt aactccagcc gcggaatgac	180
attagtgga cggggctagg gaactgctgg aagttcagga tgccaccacc ttgaacacct	240
aggccaggga tccccacat gtcccgggtt tctttcttcg agagtataga accgttcatt	300
cttgctttgt gtcccattcc atctcttgaa aaaatgtagt ctttgaatgt gtgaaaatct	360

agggacattc aatctagtct ttt

383

<210> 345
 <211> 263
 <212> DNA
 <213> Homo sapien

<400> 345
 cctccccttc ccctttgctg gtgggaggag ctctgtgtgct ccttggccgc ttactggaag 60
 ggcgtttttc agagctgcag ggacaggggtg agcagctgaa gggctaggag ggaagccggc 120
 ccccgcctctg cagaagctgc atttcagctg aatctgtgtt tcagcctcag ttggttgac 180
 cgttagcccc tctcctcccc gatggcatg tttttgtcac attagagaat aaacagccac 240
 acacacattt ttttttttcc ttt 263

<210> 346
 <211> 132
 <212> DNA
 <213> Homo sapien

<400> 346
 aaatccaaat acaaaagcat agtctctgca agattttgtt ctttgaattt cttgatattg 60
 taattgatta ttgataactg tcatcatgaa attatctctc aataataaga taaataaaact 120
 agcatatgaa tc 132

<210> 347
 <211> 564
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(564)
 <223> n = A,T,C or G

<400> 347
 cctgggtatc cagggaggct ctgcagccct gctgaagggc cctaactaga gttctagagt 60
 ttctgattct gtttctcagt agtcctttta gaggcttgct atacttggtc tgcttcaagg 120
 aggtcgacct tctaattgat gaagaatggg atgcatttga tctcaagacc aaagacagat 180
 gtcagtgggc tgctctggcc ctgggtgtgca cggctgtggc agctgttgat gccagtgtcc 240
 tctaactcat gctgtccttg tgattaaaca cctctatctc ccttgggaat aagcacatac 300
 aggcttaagc tctaagatag atagggtgtt gtccttttac catcgagcta cttcccataa 360
 taaccacttt gcatccaaca ctcttcaccc acctcccata cgcaagggga tgtggatact 420
 tggcccaaag taactggtgg taggaatctt agaaacaaga ccaacttatac tgtctgtctg 480
 aggnagaaga taacagcagc atctcgacca gcctctgcct taaaggaaat ctttattaat 540
 cacgtatggg tcacaagata attc 564

<210> 348
 <211> 321
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(321)
 <223> n = A,T,C or G

<400> 348
 gcncatgaac anggagcaac ganaagagat gtcgggctaa gggcccggga cgggcggcac 60

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ccatcctgcn acggaacacn ttcgggttnt ggttttgatt ngttcacctc tgtttatatg 120
canctatttg ntcctcctcc cccaccccag nccccaactt catgcttntc ttccgcnctc 180
agccnccctg ccctgtcctc gcggtgagtc antgaccacn gnttcccctg cangagccgc 240
cgggcgtag acncngaccc tcnntgcata caccaggccg ggcccnngct ggctccccc 300
gnggccctgt gaaanagctg g 321

```

```

<210> 349
<211> 255
<212> DNA
<213> Homo sapien

```

```

<400> 349
ccatgacagt gaaggggctg ttaggaatat caacaccacc gaagcgcaca tagatcacat 60
atgtgcccgg cttggcagct gtgtagaaga tgtcataggt tccatcttca ttctcaatga 120
catcggcctc ggccctcagt ccactctggg tcagaaccgt gcaggctact ttacccttcc 180
cggcagtcctt ggcatacaacc acaaagccta cttcttcgcc agttttcaca gtggaggcga 240
ttccaggacc cgtag 255

```

```

<210> 350
<211> 496
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(496)
<223> n = A,T,C or G

```

```

<400> 350
gggcttattn gctcacaaaa tcattcnctt ttggaactat ggccaattga agctacacac 60
tgaatttatt aatacagcat taagtcttct tgtgtnaaaa aatctttgtn cncagtaata 120
aaaaaagata aggcaagatg catataacat gaaaccttct ggctcttttc ctctgcgttt 180
ttacagagcc actgatgact atctgcaaca aaagagttaa gttttctgatt ttccgtatca 240
agcatcttat gccttttgctg tggtaagaat tctggccaag caccctgaag gacagatgct 300
ggtgatggnc tttggcactt atgctggcaa actgagcttc tttcccttga gtacttttgn 360
aatgtacaag tagaagaagt cacaagtata ggatggctct gactacgcgc gccaccacag 420
caatgaggtc aaagaagccc tcaaagnaga agcgnccaga tccagttgac aagatacaaa 480
gcacgataga ggcca 496

```

```

<210> 351
<211> 109
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(109)
<223> n = A,T,C or G

```

```

<400> 351
ccatagtga gcttggaat gagtgttact gcagcatctg ggctgccanc cacagggaag 60
ggccaagccc catgtagccc cagtcactct gccagcccc gcctcctgg 109

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```

<210> 352
<211> 384
<212> DNA
<213> Homo sapien

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<400> 352
 ccttcgagag tgacctggct gccaccagg accgtgtgga gcagattgcc gccatcgcac 60
 aggagctcaa tgagctggac tattatgact caccagtggt caacgcccgt tgccaaaaga 120
 tctgtgacca gtgggacaat ctggggggccc taactcagaa gcgaaggga gctctggagc 180
 ggaccgagaa actgctggag accattgacc agctgtactt ggagtatgcc aagcgggctg 240
 cacccttcaa caactggatg gagggggcca tggaggacct gcaggacacc ttcattgtgc 300
 acaccattga ggagatccag ggactgacca cagcccatga gcagttcaag gccaccctcc 360
 ctgatgccga caaggagcgc ctgg 384

<210> 353
 <211> 345
 <212> DNA
 <213> Homo sapien

 <220>
 <221> misc_feature
 <222> (1)...(345)
 <223> n = A,T,C or G

<400> 353
 ccttggctcag gatgaagtng gctgacacac cttagcttgg ntttgcttat tcaaaagana 60
 aaataactac acatggaaat gaaactagct gaagcctttt cttgttttan caactgaaaa 120
 ttgnacttgg ncacttttgt gcttgaggag gccattttt tgcctggcag ggggcaggta 180
 tgtgccctcc cgctgactcc tgctgtgtcc tgagggtgcat ttcctgttgn ncacacaang 240
 gccangntcc attctccctc ccttttcacc agngccacan cctnntctgg aaaaangacc 300
 agnggtcccg gaggaaccca tttgnctctt gcttgacag canag 345

<210> 354
 <211> 712
 <212> DNA
 <213> Homo sapien

<400> 354
 ccattctacaa tagcatcaat ggtgccatca cccagttctc ttgcaacatc tcccacctca 60
 gcagcctgat cgctcagcta gaagagaagc agcagcagcc caccagggag ctccctgcagg 120
 acattgggga cacattgagc agggctgaaa gaatcaggat tcctgaacct tggatcacac 180
 ctccagattt gcaagagaaa atccacattt ttgcccacaa atgtctattt ttgacggaga 240
 gtctaaagca gttcacagaa aaaatgcagt cagatatgga gaaaatccaa gaattaagag 300
 aggcctcagtt atactcagtg gacgtgactc tggaccaga cacggcctac cccagcctga 360
 tcctctctga taatctgcgg caagtgcggc acagttacct ccaacaggac ctgcctgaca 420
 accccgagag gttcaatctg tttccctgtg tcttgggctc tccatgcttc atcgccggga 480
 gacattattg ggaggtagag gtgggagata aagccaagtg gaccataggt gtctgtgaag 540
 actcagtgtg cagaaaaggt ggagtaacct cagcccccca gaatggattc tgggcagtgt 600
 ctttgtggta tgggaaagaa tattgggctc ttacctccca atgactgcc taccctgcg 660
 gaccccgctc cagcgggttg gggattttct tggactatga tgctggggga gg 712

<210> 355
 <211> 385
 <212> DNA
 <213> Homo sapien

<400> 355
 cctcatagcc gcttagcaca gttacagaat gtctgaaggg gacagtgtgg gagaatccgt 60
 ccattggaaa ccttcgggtg tgtacagatt tttcacaaga cttggacaga tttatcagtc 120
 ctggctagac aagtccacac cctacacggc tgtgcgatgg gtcgtgacac tgggcctgag 180
 ctttgtctac atgattcgag tttacctgct gcagggttgg tacattgtga cctatgcctt 240
 ggggatctac catctaaatc ttttcatagc ttttctttct cccaaagtgg atccttcctt 300
 aatggaagac tcagatgacg gtccttcgct accacacaaa cagaacgagg aattccgcc 360

cttcattcga aggctcccag agttt

385

<210> 356

<211> 347

<212> DNA

<213> Homo sapien

<400> 356

aaatgagata aagaaagtct ccttttggtt ttagatggaa aagaaagcac aagttttttc	60
tacctgtgaa tgaactttgg tgacctatat gtgccattca tgcagcattt ttgttcatat	120
tggttagaa ttcagtgcac gaatatcatt acattcttat atctaacatt cctagttagc	180
tttgattcaa aatatacaaa atctgataca tgaatacttt gctagattaa tgacttgatc	240
atctttggaa tgagtaggca agacgatttt tacctattat ttctatgttg tgggtaatgt	300
taaaactaaa tacagatgat aataattgct atttcacagt gatgttt	347

<210> 357

<211> 313

<212> DNA

<213> Homo sapien

<400> 357

aaagtaatca acctctctgt ccttccatta gtctggatcg tctaaagatt gttttatatt	60
tagaggctca tccggtcaga tgtagtgat gtgaaatttc aggccaggcg tgacgtcagc	120
gtggcatttg aaacagctcc atgttgccct tagtgctgtc tgaccgaagc ctgtctgtcc	180
tcagatataa agatgaagcg cagctgtata aagaagagca cctgaggaat cggcagcacc	240
ctcactgcta cgttcagtag atgatcgcca tcatcaacaa ctgccagacc ttcaaggaat	300
ccatagtcag ttt	313

<210> 358

<211> 403

<212> DNA

<213> Homo sapien

<400> 358

aaaaagaagg acttaggggtg tcgttttcac atatgacaat gttgcattta tgatgcagtt	60
tcaagtacca aaacgttgaa ttgatgatgc agttttcata tatcgagatg ttcgctcgtg	120
cagtactgtt ggtaaattga caatttatgt ggattttgca tgtaatacac agtgagacac	180
agtaatttta tctaaattac agtgcagttt agttaatcta ttaatactga ctcagtgtct	240
gccttttaat ataaatgata tggtgaaaac ttaaggaagc aaatgctaca tatatgcaat	300
ataaaatagt aatgtgatgc tgatgctgtt aaccaaaggg cagaataaat aagcaaaatg	360
cctaaagggt tottaattga aatgaaaatt taattttgtt ttt	403

<210> 359

<211> 411

<212> DNA

<213> Homo sapien

<400> 359

aaataaatac ttagaacacg acttggtccc tacaagcatc tggactctag gtctcagtag	60
tggagtgtct caccatggg cccacgcag ggacgccacg gttccctccc acccgtgat	120
caagacacgg aatcggtgc cgatggttg atcgcaatgc gcccttttc tagagccttc	180
cccggccatc tacaggcagg atgcggctgg gaaaaagaca actggaattt ctcgaagggt	240
gatgggtccgc acggttgagg attctacgtg gttctcttgg ttccctggt gtgtgtgtgt	300
gtggaggagg ccgcgccct tagatcacct tottgagctc gtcgtacagg accagcacga	360
aggcgcccc catgccccgc aggacgttg accacgcacc cttgaagaag g	411

<210> 360

<211> 378

<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(378)
<223> n = A,T,C or G

<400> 360
cctcttcagg ggcccgagcc agggacagg ccttggtttc cttctccctg gcttctgcct 60
cagctctgtc cctctcatcc gcgtatttgg aagagatgtt tttctcctcg gctaacaact 120
gatcaaattt cctctgcttc ttttccagg tggacacgag ttgccgctgg ttgtccaaat 180
caacaaccag gtctgccagc tcctgctgaa gcctgttctt ggtcttttcc agtttatcat 240
aagcgggcgc cttctcctcg tactgctggg tgaggntctc gatctccttc tggaacctct 300
tcttccctc ttcagagct tccacggngc tggcaaagtc ctgcagcttc ttcttcgagt 360
cggagagctg gatgttga 378

<210> 361
<211> 372
<212> DNA
<213> Homo sapien

<400> 361
aaatactggg ggccattaag agtggatgta gctaagagct tagctaacat tgccttttca 60
ctctattttt ctcagatatt gtaagcattc tgtttttcaa tattgtagtt aatttttttg 120
ctttcaacag cagccctagt aatgggtggag ttgttaatta atgtgtatat tgtactgaat 180
ttctgtcagt taagggggtc actgctttgg tggaaattgg tggaaattgc tagcagggtc 240
cacgatgttt atttttttct ccatgtttgta tatcattacc atttcacata cgcgtttcta 300
tttttcttcc tctcctcctg atctccttaa aaatgaatct agagttgggtg gctttttccc 360
cctcctcttt gg 372

<210> 362
<211> 544
<212> DNA
<213> Homo sapien

<400> 362
cctgagtcac ctagcatagg gttgcagcaa gccctggatt cagagtgtta aacagaggct 60
tgccctcttc aggacaacag ttccaattcc aaggagccta cctgaggctc ctactctcac 120
tggggtcccc aggatgaaaa cgacaatgtg ccttttttatt attattttatt tgggtggtcct 180
gtgttattta agagatcaaa tgtataacca cctagctctt ttcacctgac ttagtaataa 240
ctcactactaa ctggttttga tgccctgggtt gtgacttcta ctgaccgcta gataaacgtg 300
tgccctgtccc ccagggtggtg ggaataattt acaatctgtc caaccagaaa agaattgtgtg 360
tgtttgagca gcattgacac atatctactt tgataagaga cttcctgatt ctctaggctg 420
gttcgtggtt atcccattgt ggaaattcat cttgaatccc attgtcctat agtcctagca 480
ataagagaaa tttcctcaag tttccatgtg cggttctcct agctgcagca atactttgac 540
attt 544

<210> 363
<211> 328
<212> DNA
<213> Homo sapien

<400> 363
aaactggtta tgacaaaagc ctttagttgt gtttcttgaa ctataaagaa aacaaatttt 60
ggcagtcctt aagtatatat agcttaaaat ataattttta gcatttggca ccatatgtat 120
gccattatat ttgatttttg attactgttt cacaatgaag ctttctttta ggctttgatt 180
tttatgatta tgaaagaaat aaggcacaac cacagttttt ctttcttaaa tttcatcact 240

gttgatgtgg ttcttttgtg ttataaaaaa aaagtgcac tatcaaaact aaaaaattat 300
agagtaatat tgccgttctg ctgatttt 328

<210> 364
<211> 569
<212> DNA
<213> Homo sapien

<400> 364
cctgggcacc tctttgcttg aaatatggca agacttggaa aaatgtttgc ccttagaatc 60
tatctcacta ctttagtttag ttgtctcctt tgggcctggg cacagttctg gccctgatct 120
ggaacagact cccttttcta aaactgaact tgaccacatc aaaagtttgt aaaacaatct 180
ccatggtaat taaacttgca ttcaacacca tatggtaaca gaagatggca aaggataaga 240
ttcagatctt agatctttcc aagtagggca tgttagatga tagaaggatt agttgcaagc 300
tggatctgag ctgaggtctg ggcatgaagg aaactgtctc ccatgtgggt tggagaggtt 360
aggggtctcc tgagctctat tgtgaactat acgggtttca tccaagggaat ggtatgatgt 420
gggcataaaa ccattcttca gacaactgaa gatgggtccc ttctgtagcc agaaacacta 480
gctgtcctgc attgtccatt tccttttagcc ccaggcggtc ctgtgtgtac agggaggtct 540
cctgtaaggg aatggtttcc ttggcttgg 569

<210> 365
<211> 151
<212> DNA
<213> Homo sapien

<400> 365
aaaaaaaa atccttttat tatggaatgt gtcaaacaca cacacaagca taacaaaccc 60
ctaggtaccc atctccaagt ttgaccctt attataatgt catcttcagt gttttattat 120
ccacttctc tctctctatc tttagtattt t 151

<210> 366
<211> 508
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(508)
<223> n = A,T,C or G

<400> 366
agtataaaga tatattccat aaaagagttt ggcagtcaaa ganaagcatc gcacttccga 60
aaaacacaag cattcttctc ctagtctaca gagaattgng taaaaaaaaa aaaaaatcat 120
catcaacagc cncantnta cncacacta gaatgtacac tccggcaagt aaattaagggn 180
tgaggtccat ccctgaacga tganaagngg tctgagctat ggcaaagngt tanaaagtag 240
cccagctana caaatgcccc agctatcccc aggggaggtt ttcagtactt aanacttcat 300
ttccaananc agccccggaa aagccctgac aggaaggggg gaccagngat caccgatntc 360
ccattagggg cggncaccaa aaacaaaatg cctggagctt ntgagcagct gcagcctggg 420
gttgtggcta ggcncngggg gnggttgcaa aaaaacggct gtntccgggg agaggcaaat 480
ggcaggccag ccagccctgg gtacatgg 508

<210> 367
<211> 382
<212> DNA
<213> Homo sapien

<400> 367
cctgagcggc tagtctttaa gatgcgttc tatcgtttgc tgcaaatccg agcagaagcc 60

ctcctggcgg	caggcagcca	tgtgatcatt	ctgggtgacc	tgaatacagc	ccaccgcccc	120
attgaccact	gggatgcagt	caacctggaa	tgctttgaag	aggaccagc	gcgcaagtgg	180
atggacagct	tgctcagtaa	cttgggggtgc	cagtctgcct	ctcatgtagg	gcccttcac	240
gatagctacc	gctgcttcca	accaaagcag	gagggggcct	tcacctgctg	gtcagcagtc	300
actggcgccc	gccatctcaa	ctatggctcc	cggcttgact	atgtgctggg	ggacaggacc	360
ctggtcatag	acacctttca	gg				382

<210> 368

<211> 174

<212> DNA

<213> Homo sapien

<400> 368

ccttctccct	ctttgacaag	gatggagatg	gcactatcac	caccaaggag	ttggggacag	60
tgatgagatc	cctgggacag	aacccactg	aagcagagct	gcaggatatg	atcaatgagg	120
tggatgcaga	tgggaacggg	accattgact	tcccggagtt	cctgaccatg	atgg	174

<210> 369

<211> 216

<212> DNA

<213> Homo sapien

<400> 369

aaatctcatg	ggttctatta	aaaaaatata	tatatagggc	cccaatccat	tgccatcaaa	60
ttgcccttgg	acttttccaa	ggtatattat	ggggttttat	gcaaaattcc	aagctaccat	120
gtaacttttt	ttaaccattt	aacaaggagg	gggaactggt	tcctaccttc	tttacetggt	180
gtgcattggt	gtggtccaga	aatgccaaac	cttttt			216

<210> 370

<211> 344

<212> DNA

<213> Homo sapien

<400> 370

ccttggtcag	gatgaagttg	gctgacacag	cttagcttgg	ttttgcttat	tcaaaagaga	60
aaataactac	acatggaaat	gaaactagct	gaagcctttt	cttgttttag	caactgaaaa	120
ttgtacttgg	tcacttttgt	gcttgaggag	gccatttttc	tgccctggcag	ggggcaggtc	180
tgtgccctcc	cgtgactcc	tgctgtgtcc	tgagggtgcat	ttcctgttgt	acacacaagg	240
gccaggctcc	attctccctc	cctttccacc	agtgccacag	cctcgtctgg	aaaaaggacc	300
aggggtcccc	gaggaaccca	tttgtgtctc	gcttgacag	cagg		344

<210> 371

<211> 741

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(741)

<223> n = A,T,C or G

<400> 371

aaattacata	tctaattgtg	tgatttggtt	aatgcccatt	tcttcatcta	agtgctaagt	60
gctaagtgtt	gcagtttggt	ccctgctaca	ctccaaggca	caaaggagtt	caagggaatgt	120
gcaatggaaa	tcagtttagat	gaatgtgtta	ggaaccttcc	ctttaataaa	gtggatccc	180
acactagccc	ctacaccctc	tcatcaccaa	atattcctgc	ttcctctcac	ctgcacttgc	240
tgttctctcc	tctgccacac	aatctacct	ctcaagccta	ggtccacct	gcttcatgac	300
aactttccag	actattccag	aacctttaac	catctctgac	ctctcatcag	atctatgttg	360

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tacataacac caattaatga gatcattact gctttatgct ctaattgctt cctgtattca 420
aaatcttctc tccaaccaca taatgactcc ctaaacttct cttgtatttt ccaatgcctt 480
gtacaagcac agaactggtc aatcaataaa tactcactgg ttatttgagg aaaaaatgtt 540
gccaagcacc atctttatca gaaaataaat caattcttct aaacttggag aaatcacctt 600
attcctagta tgtgatctta attagaacaa ttcagattga gaangngaca gcatgctggc 660
agtcctcaga gccctcgctt gctctcggna cctccctgcc tgggctccca ctttggtggc 720
attgagggag cccttcagcc t 741

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<210> 372
<211> 218
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(218)
<223> n = A,T,C or G

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<400> 372
ccgccagtgt gctggaattc gcccttggcc gcccgggcag gtaccacaac agcaggngctg 60
agtgagaaat ctaccacctt ctacagtagc cccagatcac cggacacaac actctcacct 120
gccagcacga caagctcagg cgtcagtgaa gaatccacca cctcccacag ccgaccaggc 180
tcaacgcaca caacagcatt ccctggcagt accttggn 218

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<210> 373
<211> 168
<212> DNA
<213> Homo sapien

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<400> 373
actgctaggg aatgctgttg tgtgcattga gcctggctcg ctgtgggagg tgggtggattc 60
ttcactgacg cctgagcttg tcgtgctggc aggtgagagt gttgtgtccg gtgatctggg 120
gctactgtag aagggtgtag atttctcact caggcctgct gttgtggt 168

```

```

<210> 374
<211> 154
<212> DNA
<213> Homo sapien

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<220>
<221> misc_feature
<222> (1)...(154)
<223> n = A,T,C or G

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<400> 374
tgagaaatct accaccttct acagngagcc ccanatcacc ggacacaaca ctctcacctg 60
ccagcacgac aagctcaggc gtcagtgaag aatccaccac ctcccacagc cgaccaggct 120
caacgcacac aacagcattc cctggcagta cctc 154

```

```

<210> 375
<211> 275
<212> DNA
<213> Homo sapien

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<400> 375
actgccaggg gacagtgtg tgtcagttga acctgggctg ctgtgggaag ttgttgattc 60
ctgactgggg cctgaggttg tgggtgctggc aggtaacagt gttgtatccg ttgagcctgg 120

```


gctgctgtgg	gaagttgtag	aatgccgact	gaggcctggc	gtggtggtgc	tgtcagggaa	180
tgctgtttgtg	tgctgtgagc	ctggtcggct	gtgggaggtg	gtggattcct	cactgacgcc	240
tgagcttgctc	gtgctggcag	gtgagagtgt	tgtgg			275

<210> 376

<211> 191

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(191)

<223> n = A,T,C or G

<400> 376

actgccaggg	gacagtgtcg	tgctcagttga	acctgagctg	ctgtgggaag	ttgttgattc	60
ctgactggag	cctgaggtgg	tggtgctggc	aggtaacagt	gttgatatccg	ttgagcctgg	120
gctgctgtgg	gaagttgtag	aatgccgact	gaggcctgcc	gtggtggtgc	tgntagggaa	180
tgctgctagc	g					191

<210> 377

<211> 476

<212> DNA

<213> Homo sapien

<400> 377

ccgccagtgt	gctggaattc	gcccttgccc	gcccgggcag	gtacatttcc	ttgtagactc	60
tgtaatttc	ctgcagctcc	tggttggttc	tggagcagat	gatctcaatg	agagagtcct	120
cgctgggtcc	cagccccttc	atggaagctt	ttagctcaga	agcgtcatac	tgagcaggtg	180
tcttcaatag	gccccaaatc	accgtctcca	ggtggccaga	taaggctgac	ttcagtgtcg	240
atgcaagttc	cttttttggtc	cttctctggt	aggcgaaggc	aatatcctgt	ctctgtgcat	300
tgctgcggtt	ggtcaaaatg	ttgacaatgg	tgacctcatc	cacacctttg	gtcttgatgg	360
ctgtttcaat	gttcaaaagca	tcccgtctcag	catcaaagtt	agtatagggt	ttgacagacc	420
catatgcact	tgggggtgta	gagtgatcac	cctccaagcc	gagcttgcac	aggatt	476

<210> 378

<211> 455

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(455)

<223> n = A,T,C or G

<400> 378

agtgtgctgg	aattcgccct	tggccgcccc	ggcaggtaca	catcccatct	tcaaatttaa	60
aatcatattg	tcagttgtcc	aaagcagctt	gaatttaaag	tttgtgctat	aaaattgtgc	120
aaatatgtta	aggattgaga	cccaccaatg	cactactgta	atatttgcgt	tcctaaattt	180
cttccacctc	cagataatag	acaacaagtc	tgagaaacta	aggctaacca	aacttagata	240
taaatcctac	caataaaatt	tttcagtttt	aagttttaca	gtttgattta	aaaacaaaac	300
agaaacaaat	ttcaaaaata	atcacatctt	ctcttaaaac	ttggcaaacc	cttcctaac	360
tgtccaagtn	tgagcatata	ctgccactgg	ctttagatac	tccaattaaa	tgcactactc	420
tttactggt	ctgaatgaag	tatggtgaaa	caagc			455

<210> 379

<211> 297

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(297)

<223> n = A,T,C or G

<400> 379

agctcggatc	cctagnacgg	ccgccagtgt	gotggaattc	gcccttagcg	gcggcccggg	60
caggtacaaa	gaatccttag	acgccatact	gagttttaag	ttccttaatt	cctaatttaa	120
ggcttctagt	gaagcctcct	cacagtaggc	ttcactaggc	ccacagtgcc	cctagacctc	180
tgacaatccc	accctagaca	gactttattg	caaaatgcgc	ctgaagaggc	agatgattcc	240
caagagaact	caccaaataca	agacaaatgt	cctagatctc	tagtgtggna	gaactat	297

<210> 380

<211> 144

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(144)

<223> n = A,T,C or G

<400> 380

acttttctga	aaattctttt	tcccagggtc	tataaaacat	taatttggtt	ttatatattt	60
ctattttttt	gngttttttt	gtttttaaat	caataagtaa	tctaggacta	gcattatggt	120
tgctagacct	ggcatttgct	cggc				144

<210> 381

<211> 424

<212> DNA

<213> Homo sapien

<400> 381

actcttgaat	acaagtttct	gataccactg	caactgtctga	gaatttccaa	aactttaatg	60
aactaactga	cagcttcatg	aaactgtcca	ccaagatcaa	gcagagaaaa	taattaattt	120
catgggacta	aatgaactaa	tgaggataat	attttcataa	ttttttattt	gaaattttgc	180
tgattcttta	aatgtcttgt	ttcccagatt	tcaggaaact	ttttttcttt	taagctatcc	240
acagcttaca	gcaatttgat	aaaatatact	tttgtgaaca	aaaattgaga	catttacatt	300
ttctccctat	gtggtcgctc	cagacttggg	aaactattca	tgaatattta	tattgtatgg	360
taatatagtt	attgcacaag	ttcaataaaa	atctgctctt	tgtataacag	aatacatttg	420
aaaa						424

<210> 382

<211> 408

<212> DNA

<213> Homo sapien

<400> 382

actcttgaat	acaagtttct	gataccactg	caactgtctga	gaatttccaa	aactttaatg	60
aactaactga	cagcttcatg	aaactgtcca	ccaagatcaa	gcagagaaaa	taattaattt	120
catgggacta	aatgaactaa	tgaggataat	attttcataa	ttttttattt	gaaattttgc	180
tgattcttta	aatgtcttgt	ttcccagatt	tcaggaaact	ttttttcttt	taagctatcc	240
acagcttaca	gcaatttgat	aaaatatact	tttgtgaaca	aaaattgaga	catttacatt	300
ttctccctat	gtggtcgctc	cagacttggg	aaactattca	tgaatattta	tattgtatgg	360
taatatagtt	attgcacaag	ttcaataaaa	atctgctctt	tgtatgac		408

<210> 383
 <211> 455
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(455)
 <223> n = A,T,C or G

<400> 383
 actcttgaat acaagtttct gataccactg cactgtctga gaatttccaa aactttaatg 60
 aactaactgn cnncttcacg aaactgtcca ccaagatcaa gcagagaaaa taattaattt 120
 catgggacta aatgaactaa tgaggataat attttcataa ttttttattt gaaattttgc 180
 tganncttta aatgtcttgt ttcccagatt tcaggaaact ttttttcttt taagctatcc 240
 acagcttata gcaatttgat aaaatatact tttgtgaaca aaaattgaga catttacatt 300
 ttctccctat gtggctcgctc cagacttggn aaactattca tgaatattta tattgtatgg 360
 taatatagtt attgcacaag ttcaataaaa atctgctctt tgtataacag aatacatttg 420
 aaaacattgg ttatattacc aagactttga ctaga 455

<210> 384
 <211> 376
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(376)
 <223> n = A,T,C or G

<400> 384
 actcttgaat acaaggttct gatatactg cactgtctga gaatttccaa aactttaatg 60
 aactaactga cagcttcacg aaactgtcca ccaagatcaa gcagagaaaa taattaattt 120
 catgggacta aatgaactaa tgaggataat attttcataa ttttttattt gaaattttgc 180
 tgattcttta aatgtcttgt ttcccagatt tcaggaaact ttttttcttt ttaagctatc 240
 cacagcttac agcaatttga taaaatatac ttttngaac aaaaattgag acatttacat 300
 tttctcccta tgtgggcgct ccagacttgg gaaactattc atgaatattt atattgnatg 360
 ggaatatagc attgcc 376

<210> 385
 <211> 422
 <212> DNA
 <213> Homo sapien

<400> 385
 acctgtgggt ttattaccta tgggtttata tcctcaaata cgacattcta gtcaaagtct 60
 tggtaatatata accaatgttt tcaaagtgtat tctgtcatatc aaagagcaga tttttattga 120
 acttgtgcaa taactatatt accatacaat ataaatatctc atgaatagtt tcccaagtct 180
 ggagcgacca catagggaga aaatgtaaat gtctcaattt ttgttcacaa aagtatatatt 240
 tatcaaattg ctgtaagctg tggatagctt aaaagaaaaa aagtttcctg aaatctggga 300
 aacaagacat ttaaagaatc agcaaaattt caaataaaaa attatgaaaa tattatcctc 360
 attagttcat ttagtcccat gaaattaatt attttctctg cttgatcttg gtggacagtt 420
 tc 422

<210> 386
 <211> 313
 <212> DNA
 <213> Homo sapien

<400> 386
 caagtaggtc tacaagagcg tacttcccct atcatagaag agcttatcac ctttcatgat 60
 cagccctca taatcatttt ctttatctgc ttcctagtcc tgtatgccct tttcctaaca 120
 ctcaacaaca aactaactaa tactaacatc tcagacgctc aggaaataga aaccgtctga 180
 actatcctgc ccgccatcat cctagtcctc atcgccctcc catccctacg catcctttac 240
 ataacagacg aggtcaacga tccctccctt accatcaaat caattggcca ccaatgggtac 300
 tgaacctacg agt 313

<210> 387
 <211> 236
 <212> DNA
 <213> Homo sapien

<400> 387
 cgccctcata atcatttttc ttatctgctt cctagtcctg tatgcccttt tcctaacact 60
 cacaacaaaa ctaactaata ctaacatctc agacgctcag gaaatagaaa ccgtctgaac 120
 tatcctgccc gccatcatcc tagtcctcat cgccctccca tccctacgca tcctttacat 180
 aacagacgag gtcaacgata cctcccttac catcaaatac attggccacc aatggt 236

<210> 388
 <211> 195
 <212> DNA
 <213> Homo sapien

<400> 388
 acgccctttt cctaacactc acaacaaaac taactaatac taacatctca gacgctcagg 60
 aaatagaaac cgtctgaact atcctgcccg ccatacatct agtcctcacc gccctcccat 120
 ccctacgcat cctttacata acagacgagg tcaacgatcc ctcccttacc atcaaatcaa 180
 ttggccacca atggt 195

<210> 389
 <211> 183
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(183)
 <223> n = A,T,C or G

<400> 389
 taacactcac aacaaaacta actaatacta nnatctcaga cgctcaggaa atagaaaccn 60
 cctgaactat cctgcccgcc atcatcctag tctcctcgc cctcccatcc ctacncatcc 120
 tttacataac agacgaggtc aacgatccct cccttaccat caaatcaatt ggccaccaat 180
 ggt 183

<210> 390
 <211> 473
 <212> DNA
 <213> Homo sapien

<400> 390
 acaaagcagc aactgcaata ctcaagggtt aaacattaga aaagcatttg tgtgacagg 60
 atattacagt attatcaaaa tattacattt tcagacttac ttagcagata atcatccacc 120
 agagcttaaa tcttttaaat atttccatag tcttaaaaaa tatgtaatgt cagaatgcac 180
 ataaaaagaa tgtaaaagga aacctaataa acaaatggaa taatgtaaca aataaatatt 240
 tgatttcagt aactgttaat aatcagctca acaccaccat tctctctaaa ctcaatttaa 300

ttcttatagg aataatgaac tgtcaaatgc catggcataa ttattttattt ccaagctatc	360
atcaatgatt agaactaaaa aaaatttggc ataaaaaaat cacaattcag cataaataaa	420
gctatttttta gcttcaacac tagctagcat ctctaagaat tggtgaaata agt	473

<210> 391
 <211> 216
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(216)
 <223> n = A,T,C or G

<400> 391	
atttgtatttt taggtttcct ttacattct ttttatatgc nntctgacat tacatatttt	60
ttaagactat ggaaataatt taaagattta agctctgggtg gatgattatc tgctaagtaa	120
gtctgaaaat gtaatatttt gataatactg taatatacct gtcacacaaa tgcttttcta	180
atgttttaac cttgagtatt gcagttgctg ctttgt	216

<210> 392
 <211> 98
 <212> DNA
 <213> Homo sapien

<400> 392	
acttattttca acaattctta gagatgctag ctagtggtga agctaaaaat agctttattt	60
atgctgaatt gtgatttttt tatgccaaat ttttttaa	98

<210> 393
 <211> 397
 <212> DNA
 <213> Homo sapien

<400> 393	
tgccgatata ctctagatga agttttacat tggtgagcta ttgctgttct cttgggaact	60
gaactcactt tcctcctgag gctttggatt tgacattgca tttgaccttt tatgtagtaa	120
ttgacatgtg ccagggcaat gatgaatgag aatctacccc cagatccaag catcctgagc	180
aactcttgat tatccatatt gagtcaaag gttaggcattt cctatcacct gtttccattc	240
aacaagagca ctacattcat ttagctaaac ggattccaaa gagtagaatt gcattgaccg	300
cgactaattt caaaatgctt tttattatta ttatttttta gacagtctca ctttgtcgcc	360
caggccggag tgcagtgggtg cgatctcaga tcagtg	397

<210> 394
 <211> 373
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(373)
 <223> n = A,T,C or G

<400> 394	
ttacattgtt gagctattgc tgttctcttg ggaactgaac tcactttcct cotgaggctt	60
tggatttgac attgcatttg accttttatg tagtaattga catgtgccag ggcaatgatg	120
aatgagaatc taccgccaga tccaagcatc ctgagcaact cttgattatc catattgagt	180
caaatggtag gcatttccta tcacctgttt ccattcaaca agagcactac attcatttag	240

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ctaaacggat tccaaagagt agaattgcat tgaccacgac tantttcaaa atgcttttta 300
ttattattat tttttagaca gtctcacttt gtcgcccagg ccggagtgca gtggtgcgat 360
ctcagatcag tgt 373

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<210> 395
<211> 411
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(411)
<223> n = A,T,C or G

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<400> 395
actgatcatt ctatttcccc ctctattgat cccacacctc aaatatctca tcaacaaccg 60
actaatcacc acccaacaat gactaatcaa actaacctca aaacaaatga taaccataca 120
caacactaaa ggacgaacct gatctcttat actagtatcc ttaatcattt ttattgccac 180
aactaacctc ctcggactcc tgcctcactc atttacacca accaccaat tatctataaa 240
cctagccatg gccatcccct tatgagcggg cgcagtgatt ataggctttc gctctaagat 300
taaaaatgcc ctagcccact tcttacngca aggcacacct acaccctta tcccatact 360
agttattatc gaaaccatca gcctactcat tcaaccaata gccctggccg t 411

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<210> 396
<211> 411
<212> DNA
<213> Homo sapien

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<400> 396
actgatcatt ctatttcccc ctctattgat cccacacctc aaatatctca tcaacaaccg 60
actaattacc acccaacaat gactaatcaa actaacctca aaacaaatga tagccataca 120
caacactaaa ggacgaacct gatctcttat actagtatcc ttaatcattt ttattgccac 180
aactaacctc ctcggactcc tgcctcactc atttacacca accaccaac tatctataaa 240
cctagccatg gccatcccct tatgagcggg cgcagtgatt ataggctttc gctctaagat 300
taaaaatgcc ctagcccact tcttaccaca aggcacacct acaccctta tcccatact 360
agttattatc gaaaccatca gcctactcat tcaaccaata gccctggccg t 411

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<210> 397
<211> 351
<212> DNA
<213> Homo sapien

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<220>
<221> misc_feature
<222> (1)...(351)
<223> n = A,T,C or G

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<400> 397
ngccgangta caaaaaaaag cacattccta gaaaaaggta ttggcaaata gtaaaaatgg 60
gaggtcaaaa ncaaaaaaaa aaaaaacaaa acnaaaaaaa gaaaaaacca acaattcttc 120
aattcagtg gcaaacatta tataaaaata gaaatactaa ctctacaggc agtatttctc 180
gataaattat ttaaatagca tatctacnca atctgagata tctattccaa tggcaatgag 240
aaaataattt ataaaaataa agcaatggta taccanatga tagaaaaaaa cataactttc 300
agaaattgta tttaacattt caatgctatt tccttattgn gaatncttct c 351

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<210> 398
<211> 363
<212> DNA

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<213> Homo sapien

<400> 398

acaaaaaaaa	gcacattcct	agaaaaaggt	attggcaaat	agtaaaaatg	ggagggtcaaa	60
agcaaaaaaa	aaaaaaaaaa	aacaaaaaaa	agaaaaaacc	aacaattctt	caattcagtg	120
tgcaaacatt	atataaaaaa	agaaatacta	actctacagg	cagtatttcc	tgataaatta	180
tttaaatagc	atatctacac	aatctgagat	atctattcca	atggcaatga	gaaaataatt	240
tataaaaaa	aagcaatggt	ataccagatg	atagaaaaaa	acataacttt	cagaaattgt	300
atttaacatt	tcaatgctat	ttccttattg	ggaatacttc	tctgcagagt	ttttatgcta	360
tgt						363

<210> 399

<211> 360

<212> DNA

<213> Homo sapien

<400> 399

actgtttcct	cgtgggtcag	gggtgtgcat	gaaggctctt	aggagagcaa	acacctgttc	60
ctattctgta	tgtccctccc	tcatttcaaa	tgagagtaac	caattgagta	aaataaccaa	120
ataaocattg	ccccaccatg	aacatggggc	ttgggaagac	agtcctacaa	tcttcatcat	180
atatttaggt	ttttaggcca	gccagctctt	tttttccaaa	gctttctttt	gaatacccg	240
ccggggcgcc	cctaaggggc	aattctgcag	atatccatca	cactggcggc	cgctcgagca	300
tgcacttaga	gggcccaatt	cgccctatag	tgagtcgtat	tacaattcac	tggccgtcgt	360

<210> 400

<211> 87

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(87)

<223> n = A,T,C or G

<400> 400

ctgcacatat	cnattacact	ggcgggcgct	cgagcatgca	tnagaggggc	ccaattctcc	60
ctatatattg	tggaattaca	atnncnt				87

<210> 401

<211> 328

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(328)

<223> n = A,T,C or G

<400> 401

acccagggac	acaaacactc	tgcctaggaa	aaccagagac	ctttgttcac	ttgtttatct	60
gctgaccttc	cttcactat	tgtcctatga	ccctgccaaa	tccccctctg	cgagaaacac	120
ccaagaatga	tcaataaaaa	ataaaataaa	attaaattaa	aaaaaaaaaa	agagaggaac	180
ccacaaaaaa	aaaaaaaaag	aaagtntata	aaataaaaata	ttgaagtcct	ttcccattaa	240
aaaaaaaaaa	aagaaaaagc	acggactctt	tcatccagtt	ctgatgtgat	tatctctgga	300
aggcattttc	tcctcctctt	ccctcccc				328

<210> 402

<211> 268

115

<212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(268)
 <223> n = A,T,C or G

<400> 402
 nacataatga caacatcttc actagactga gtgttcaagg atttgagatg attcgctatt 60
 catcacaccc cgaagattga gatccactgt atttacacaa agcaaagcca tgtcagcaag 120
 ggactgtcaa cctgattctg agaacataaa cattcaaaat ttattttcca gtgttccttt 180
 ttggaaacca acaacacatc ttttaatacct acaçacacac acatcctntac ctttaaaaaa 240
 aaaaaaaaaag tgnaacttca cagatagt 268

<210> 403
 <211> 538
 <212> DNA
 <213> Homo sapien

<400> 403
 acagtgatag ctccccctgg gcaataacaat acaagaacag tgggttttgt caaattggaa 60
 caaggaaaca gaaccacaga aataaataca ttggttaaca tcagattagt tcaggttact 120
 tttttgtaaa agttaaaagta gaggggactt ctgtattatg ctaactcaag tagactggaa 180
 tctcctgtgt tctttttttt tttaaattgg ttttaatttt ttttaattgg atctatcttc 240
 ttccttaaca tttcagttgg agtatgtagc atttagcacc actggctcaa tgcgctcacc 300
 taggtgagag tgtgaccaaa tcttaaagca ttagtgctat tatcagttac caccatttgg 360
 ggcttttatc cttcatgggt tatgatgttc tctgatgac acatttctct gagttttgta 420
 attccagcca aagagagacc attcactatt tgatggctgg ctgcatgcag acattttaaag 480
 cttttagaga atacactaca ccaggggagta tgactactag tatgactatt aggagggt 538

<210> 404
 <211> 310
 <212> DNA
 <213> Homo sapien

<400> 404
 tttttttata gatacaattg gcttttattt gtgattcatg agtcagggca gtttccattc 60
 tgcaaaatat agtgatagct cctactgggc aatacaacag tagaacagtg ggttttgtaa 120
 aatgggaatc caggaacaga agaataataa taaattgatt taaataaact gattgggttaa 180
 tttcagaata cttcatatta cttttttcta agagttaaag cagaaaggac tttcttactg 240
 tgctgactca gacagcctgg actctcatgt ttttaggaaa attttgtctg ttctgggac 300
 tacctgcttc 310

<210> 405
 <211> 559
 <212> DNA
 <213> Homo sapien

<400> 405
 acaaatcaca attattaact cactggtagg gcagtgatga tcaaaccaat tgcattcatc 60
 catgctgtaa tgttctctct tggcactaaa ggctgactgc agccggcaaa aaagaatgta 120
 agtatgaatt tataaaaaca ttttagatgg ctgacaacgg atcttatatt taaagaatat 180
 gtctaattca gaggatcgac aactaatcca tttcaataaa acaatgggga attttttatt 240
 gaataaaaaa gtaatatgca taaaaactca agaaggcttt ttaaaaatac ttctcccca 300
 atcattatcc catacttcat gctaattttt aaaagaatct tgaaatcttg aaaacaagat 360
 gaagagaatc ttgttttaag tgacaagtta acattattcc tatattaaat gtcaaactgc 420
 tattaatgag tagaagtagg aacaaacccg gatcttagga tcctgtccag ggctcattcc 480

ataactccta tatcacaaag acaagatctg gaaccagaaa acagtcacatca tccaatgtgc 540
atcagccttg cggcaacag 559

<210> 406
<211> 427
<212> DNA
<213> Homo sapien

<400> 406
acaacagaat atctcgggaa tggactcaga agtatgccat gtgatgctac cttaaagtca 60
gaataacctg cattatagct ggaataaaact tttaaattact gttccttttt tgattttctt 120
atccggctgc tcccctatca gacctcatct tttttaattt tattttttgt ttacctccct 180
ccattcattc acatgctcat ctgagaagac ttaagttctt ccagctttgg acaataactg 240
cttttagaaa ctgtaaagta gttacaagag aacagttgcc caagactcag aatttttaaa 300
aaaaaaaaatg gagcatgtgt attatgtggc caatgtcttc actctaactt gggtatgaga 360
ctaaaaccat tcctcactgc tctaacatgc tgaagaaatc atctgagggg gagggagatg 420
gatgctc 427

<210> 407
<211> 419
<212> DNA
<213> Homo sapien

<400> 407
acaatttgta gttgtttcca ggtttggcta ataatcattc cttaacctag aattcagatg 60
atcctggaat taaggcaggt cagaggactg taatgataga attaaattag tgtcactaaa 120
aactgtccca aagtgtgctt tcctaataagg aattcattaa cctaaaacaa gatgttacta 180
ttatatcgat agactatgaa tgctatttct agaaaaagtc tagtgccaaa tttgtcttat 240
taaataaaaa caatgtagga gcagcttttc ttctagtttg atgtcattta agaattacta 300
acacagtggc agtggttaaat gaagatgctg tctacaaggt agataatata ctgtttgata 360
ctcaaaacat ttttcatttt gtttaaagta gaagttacat aattctatat ttttaagtct 419

<210> 408
<211> 523
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(523)
<223> n = A,T,C or G

<400> 408
acatttgatg ttatgtgaat gttgagtttt tttcttctaa ttttcacttc agcagtgttt 60
agggttttca gatgccttat tccagtgtga acagaaaaag ttcatatttt atgtgggttaa 120
tgctttgatg tgtcacataa agagtagttt gtagaaaatg ttggcacaaat ttttaacttct 180
tagtggcttg tgacattata tattatatat atatgtatat atatctttat aacattcctg 240
tgttttagtag tgtaaatggt ctgggcaagt ttttaataatt tgaatgcctt tggatattcc 300
agcaataaag gcatcatggt ctgcaatagg atttcttact catttaccta ttttaacact 360
aaaatagacc acaactgagc acaaatccct tttataaatg ttatagaagc agggaagaat 420
aataaacaca tttgtgaatt gtggttcagt ttatttatct ttaggggaagg ctgatcattt 480
atcttatagc acataacccc agcctcttat tcattatggn taa 523

<210> 409
<211> 191
<212> DNA
<213> Homo sapien

117

<220>
 <221> misc_feature
 <222> (1)...(191)
 <223> n = A,T,C or G

<400> 409
 accccgtagt gatgagcact gactgggttca ctggccacat tttagttctt cataataata 60
 ggccacaaaaa gggctctgtg gtttgccctcc atgtgcaactg gcccctcccc acccctaggg 120
 ggcaactcagt agctgctgag aaggcctgtc cactgangctg ttggaacccc ttcaataaat 180
 acttagaagn a 191

<210> 410
 <211> 403
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(403)
 <223> n = A,T,C or G

<400> 410
 acactggcca gtgtgttttt ggcgattaaa cataatcctg tgaatcagat taattcactt 60
 gctgagtgtt catttgccgc atccctctgt tgggtcttgg gggccctcca cgacctcgtg 120
 gggctccccg tggctccactc tgcccagagc ctgcgttgaa attctgctga tatccatccc 180
 gttgatagcc agagtaaatcc cggggagcac tgaactgaga ctgtgtataa ccaactgtttg 240
 gagtgttaga gaatgaaggc cggtaaccat catatcctcc tctgaatcca ttggcagggc 300
 cccggtatcc attcatcaag cctctagcac cactggagcc tccacgagac acaccacgac 360
 tattgtataa gggctgattg ctacgtggaa atccagtgtg ctg 403

<210> 411
 <211> 384
 <212> DNA
 <213> Homo sapien

<400> 411
 acgtgaaatc ataacaacat gttctcttgt gtttggttcc tcttgctcag catgatattt 60
 ttacggttca cccataatgc atgtatcagg aatataatcc tttttattat tgagttagtg 120
 tctattgtat gtatatacca cagtttattt ctcccttcat cctttgctag attttgggg 180
 tttttcacat tgcgctattc aagtataaac ctgctctcaa cattcatgtg caagtctttg 240
 agtggacata tatttgccgt ttctcttgag tgaatgcacc ttgttgggtc acgtggctta 300
 atttataaaaa attttaatca ctgtggtgca tatgtagtga ttattagtga ttatctcata 360
 attttatttt cttgatgact aatg 384

<210> 412
 <211> 315
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(315)
 <223> n = A,T,C or G

<400> 412
 acaatatttc tcctttgaga agataggata tatgattttc ccaaaaatca caactttgaa 60
 ggaagactta nttgctgact tcaattatat cctggaactg gcaacttggt cccttccttt 120
 gcttcaaaaa aagtgtgaaga aagagtgata agatcaactt taatcattct tggatcttca 180

gcaaattcag	gatcaatgta	gaaaaacact	ggcatatcta	cttcctcttg	gggattaagc	240
ctttgttctt	caaaacagaa	gcactgtatt	ttattgaaat	actgtccacc	ttcaaatgga	300
acaatattgt	atgna					315

<210> 413

<211> 554

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(554)

<223> n = A,T,C or G

<400> 413

acaggtttca	ctattacaaa	tatatgatgt	taaactaaca	aactcatgac	cttcaaagat	60
gtcttcgtcc	cacgcacaca	catttgtaat	ttgtgtccat	ttgctatttc	ccttcttcta	120
taatcttcaa	attatatagt	tatgcattga	gttccctatg	catctcacc	atctccttta	180
tctcagcctt	ctcatacttt	gccattctct	tctttctgga	aataaccagc	acaacaattc	240
cagcaacaac	tgctatcacc	acaaccacaa	taacagcaat	aacaccagct	tttagaccct	300
gcattgagaa	ttcagggtgct	ttttcatcaa	cataataaat	taaagtttga	ccaggatcca	360
gatccagttg	ttccccattt	actgtcaggt	gccattttct	tagaatgaaa	caaggattca	420
cctttaacat	ctttttcaaa	ataataagcc	acatcagcta	tgtccacatc	attctgagnt	480
ttttgagaag	aattttgaac	cagatcaata	gtgataacat	tattctcata	caaaatactc	540
gngataaatt	ntgg					554

<210> 414

<211> 267

<212> DNA

<213> Homo sapien

<400> 414

accagaaagg	cacacgattt	tacaatattt	gttggaaatta	ccttactttt	taacctcctc	60
atagcagttt	tggtttgagt	atattgatga	aagccaaaagt	ctggtatcta	aaacttgggc	120
caatgtttcc	caactgggat	atgtcagggt	ttcccaatag	cttaactgtg	accctatacg	180
gatggctttt	tagatagttc	tatactgctg	tattgtgtta	gcacttttct	ttgtcattaa	240
caacacactt	taaatgacat	ttggtga				267

<210> 415

<211> 454

<212> DNA

<213> Homo sapien

<400> 415

accggaacct	gcagaaacag	tgtgagaaat	taagtcctgg	ttcactgcgc	agtagcaaag	60
atggtcaagg	ccatggaaaa	agcagaaatt	taccaagaaa	gctgataccc	atgtatagtt	120
cccactcatc	tcaaatacat	ctgctatctt	tttaagctaa	gtcctagaca	tatcggggat	180
aacatggggg	ttgattagtg	accacagtta	tcagaagcag	agaaatgtaa	ttccatattt	240
tatttgaaac	ttattccata	ttttaattgg	atattgagtg	attgggttat	caaacaccca	300
caaactttta	ttttgttaaa	tttataatggc	tttgaaatag	aagtataagt	tgctaccatt	360
ttttgataac	attgaaagat	agtattttac	catctttaat	catcttggaa	aatacaagtc	420
ctgtgaacaa	ccactctttc	acctagcagt	atga			454

<210> 416

<211> 370

<212> DNA

<213> Homo sapien

<400> 416
 ccgacacgggt gccagcgccc tgetgcgtgc ccgocageta caatcccatg gtgctcattc 60
 aaaagaccga taccgggggtg tcgctccaga cctatgatga cttgttagcc aaagactgcc 120
 actgcatatg agcagtcctg gtccttccac tgtgcacctg cgcggaggac gcgacctcag 180
 ttgtcctgcc ctgtggaatg ggctcaaggt tcctgagaca cccgattcct gcccaaacag 240
 ctgtatttat ataagtcctgt tattttattat taattttattg gggtgacctt cttggggact 300
 cgggggctgg tctgatggaa ctgtgtattt attttaaact ctggtgataa aaataaagct 360
 gtctgaactg 370

<210> 417
 <211> 463
 <212> DNA
 <213> Homo sapien

<400> 417
 acactttata tattccaaat tgatcagata tatggtttgc aaattcatct caatctgtag 60
 cttatctttt cctcttctta aatcacaagt ttttaaattt tgaagaagtc caatatatca 120
 gattttgtct tttatggatg tgctttcggg gcaaagtcca agaacttgtc acctagccca 180
 agatcctgaa gattttttctc ctgtggcttt tttcaaagtt atctagtttt atgtatcaca 240
 ttttaagtcgg ttatacatatt tgagttaaatt tttatataag atgtgaggtt taagtagagg 300
 ttcttttttc tcctcgccat ggggtgtctaa ttgctctagc ataatttgtc agaaaggcta 360
 ttcttctctc attgaattgc tttttcactt tttcaaaatc agctgagcat atttataatgg 420
 gtttatttct gggttctctc atctgttcca ttgacgtatg tgt 463

<210> 418
 <211> 334
 <212> DNA
 <213> Homo sapien

<400> 418
 ttagcatttg cttttatttt tttactttga tgccttttca aattggcatg tcttttaaagt 60
 atttttcttc ctgattaaaa atgtgtgtgt atgtgtgtgt gtgtgtgtat atatataatt 120
 ttttaaataca cattaatttt accaagtga accaagccat actgtttttg agccaattaa 180
 gaaaattgcc atttttaaag ttagcatttt cagggtaaaag acccatgaaa tggcttgatg 240
 tattctagac tactgaaaga aaaccacttc aaagattttg ttgaaagttt tagtgttgtc 300
 tgaaatgcaa gaggggaagg gattggtagt gagt 334

<210> 419
 <211> 297
 <212> DNA
 <213> Homo sapien

<400> 419
 acttctttga ccaaggaata ccacagacac cctaccgata gaacagtggc tcagatctta 60
 cttgctcctg cttacgaagt attcccaatc actggtcatc tgaccctact tgaacactcc 120
 tgaacagtca tgttttttaa aatcttccct tatatcaagt cagagagtat acttctataa 180
 atttactca tggatgttag gaaatctagt catcttccct gtgattgccc tgtaagtat 240
 ttaaccatag ctatcatgtg tttcccaaat cttctctaga ttaaatatct tcagtta 297

<210> 420
 <211> 418
 <212> DNA
 <213> Homo sapien

<400> 420
 acgagaggaa ccgaggttc agacatttgg tgtatgtcct atcaatagga gctgtatttg 60
 ccatcatagg aggcctcatt cactgatctc ccctattctc aggcctacacc ctagaccaa 120
 cctacgcaa aatccatttc gctatcatat tcatcggcgt aaatctaact ttcttcccac 180

120

aacactttct	cggcctatcc	ggaatgcccc	gacgttactc	ggactacccc	gatacataca	240
ccacatgaaa	tatcctatca	tctgtaggct	cattcatttc	tctaacagca	gtaatattaa	300
taattttcat	gatttgagaa	gccttcgctt	cgaagcgaaa	agtcctaata	gtagaagaac	360
cctccataaa	cctggagtga	ctatatggat	gccccccacc	ctaccacaca	ttcgaaga	418

<210> 421

<211> 304

<212> DNA

<213> Homo sapien

<400> 421

acgcctggac	ccctgtgact	tgcagcctat	ctttgatgac	atgctccact	ttctaaatcc	60
tgaggagctg	cggggtgattg	aagagattcc	ccaggctgag	gacaaactag	accggctatt	120
cgaaattatt	ggagtcaaga	gccaggaagc	cagccagacc	ctcctggact	ctgtttatag	180
ccatcttcct	gacctgctgt	agaacatagg	gatactgcat	tctggaaatt	actcaattta	240
gtggcagggt	ggtttttttaa	ttttcttctg	tttctgattt	ttgttgtttg	gggtgtgtgt	300
gtgt						304

<210> 422

<211> 578

<212> DNA

<213> Homo sapien

<400> 422

actgtgcagg	cagattcaca	gggtgggtgt	aaagcatcca	caatggctct	ggcagcatca	60
ggatcacact	tgaaggggct	ctcagacaaa	gttgtattca	tgcaactgat	tccttttcca	120
ttcgttttct	tagtactaa	tgctttccaa	tggtcatgag	tgcttttaat	aatatcaatg	180
gcaaagtcct	tatcttttaa	ttctgcatta	aacgcaaact	cattttctgg	ttttccatca	240
ggaaccttat	acctttctaa	ccagtcacac	gtagcttcta	agtagccagg	tttcagccgt	300
ttgacatcat	tgatatcatt	ataattggct	gcatcaggat	catccacatt	aatggcaatg	360
actttccagt	cggtttcccc	ttcgtcaatc	atagccaata	tgccatagaac	tttcaattat	420
ttatttcacc	tcttgacat	accttgcttc	caatttcaca	cacatcaatt	gggtcattgt	480
caccacaaca	gccagtatgt	ttatcattgt	gccctgggtc	ttcccaagtc	tgagggatgg	540
caccatagtt	ccagatatat	cctttatacg	ggaacaaa			578

<210> 423

<211> 327

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(327)

<223> n = A,T,C or G

<400> 423

acagtatatt	tttagaaaact	cattttttcta	ctaaaacaaa	cacagtttac	tttagagaga	60
ctgcaataga	atcaaaatth	gaaactgaaa	tctttgttta	aaagggttaa	gttgaggcaa	120
gaggaaagcc	ctttctctct	cttataaaaa	ggcacaacct	cattggggag	ctaagctagg	180
tcattgtcat	ggtgaagaag	agaagcatcg	tttttatatt	taggaaatth	taaaagatga	240
tggaagcac	atttagcttg	gtctgaggca	ggttctgttg	gggcagtgtt	aatggaaagg	300
gctcactgnt	gntactacta	gaaaaaat				327

<210> 424

<211> 384

<212> DNA

<213> Homo sapien

<400> 424
 acgaaaaata aatctcctta aaaactaaat aaaatgcact gtattcttac agttaatggt 60
 tataactata gtaaaaaatt aatatatata ctattacata aatgttattt cttaggtggt 120
 ccattaagaa gagcaataga ataatgctaa aaaataatgc ctataaatct tcagagtata 180
 aagacatcca ttacagaaaca aaaattagca ctaaattttt tataaaatag accagatgac 240
 aaaattttatt ttattttttaa acagtgggtt tgacacaaat tatgttattg aaaagcatta 300
 ttaatgttta atttttttaa aatttttgaa ttgcccattt ctacagagaat gatcaggcct 360
 taggaaatta atacagtagt agta 384

<210> 425
 <211> 255
 <212> DNA
 <213> Homo sapien

<400> 425
 actatcaggc ttgtgtctga ttctctgaac aaactgcatt atattatgaa aacaaaagga 60
 aaagaagaaa taataaaaac tatactccca tatttcactt acagtgtttg agttcctgga 120
 aggacctata taatggaggc agcattcaaa caagaaatta tgccaatcaa ctgtcaaatt 180
 ttactataa ttctctctaaa aaggcggttt tcccccaata tctattaatc tcaaagaaac 240
 ataagttgtg aatgt 255

<210> 426
 <211> 196
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(196)
 <223> n = A,T,C or G

<400> 426
 acatgaantn nccaggccca cacagccaga cagcaacaga accaagacct agggctcttc 60
 actcctgtta catcacacca tggcaatgat ttacattct ccaactgatt caaatcatat 120
 ggcagctagg gatttggggg ctccatgttt tatttcaatt gcaagttcaa gatttctttt 180
 tatctttgtg ggctga 196

<210> 427
 <211> 163
 <212> DNA
 <213> Homo sapien

<400> 427
 acagaagatc catggaggca agtgctgtca ggaaggacac tgccctccctc caccctccca 60
 aatgtcacca ccaagttcct tcagggtgaga cctcacacaa tgtcaagtgc tttctaggaa 120
 atactaagat caggttgaga gattctgctt ggtctagtca atc 163

<210> 428
 <211> 315
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(315)
 <223> n = A,T,C or G

<400> 428

```

nactgagtan agatgctggg gaatgtgcaa tatgccttga agaattgcag cagggagata      60
ctatagcacg actgccttgt ctatgcatat atcataaagg ctgcatagat gaatggtttg      120
aagtaaatag atcttgcctt gagcaccctt cagattaagc gtcagcttcc tgttttatag      180
gttttcttgt cttgacaaga tgcttgaaaa accaagagga tatgaaaatc tgtctctgga      240
gaaacaaaga cgcaggcata ctccagccaga aatctgagtt ttgtgagact tggtaataca      300
gagatggaca atcgt                                     315

```

```

<210> 429
<211> 131
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(131)
<223> n = A,T,C or G

```

```

<400> 429
acagttaggn actagaacat ttgttaagcc tcccaaagta gngtgcattg aagattctag      60
agtgtccagc tcttgcaact caaatgtaat aataacagaa taaatacact taccctgatg      120
atattgaggg t                                     131

```

```

<210> 430
<211> 503
<212> DNA
<213> Homo sapien

```

```

<400> 430
actgattttt aataaaagaa ataaggttca aagtttagca caacaacaca gcaataagaa      60
gctgacaact tggataaaaa tacaagaaag taacacagag cccagggtac ccattattta      120
ctgtgtgcat acaggaatgc tatacttcag atgtataaat tagagactga ttttaagtta      180
ttaattttaac tactttttgt ccactgtgct aaactaaatt ttataactaat gtgctactgc      240
gtaaacactt caaagcaatc ttcattaaaa tgctgcaaag aaaaacaaga atacacatca      300
tccaaaacta aggatgtcat tgcagttcac agtttgtata ataaataccc tccctttcaa      360
tcactactaa gatcactaca tcctatctac tcactcagcac aaccttgaag caacttatac      420
ttacaaatat tagcaatgca gccaaacatt tgttttttgc aaagcaacta gtaaaaaatca      480
agaattttta ttaagacggt gca                                     503

```

```

<210> 431
<211> 207
<212> DNA
<213> Homo sapien

```

```

<400> 431
acaagtgtgg cctcatcaag ccctgcccag ccaactactt tgcgttttaa atctgcagtg      60
gggccgccaa cgtcgtgggc cctactatgt gctttgaaga ccgcatgatc atgagtcctg      120
tgaaaaacaa tgtgggcaga ggcctaaaca tcgccctggt gaatggaacc acgggagctg      180
tgctgggaca gaaggcattt gacatgt                                     207

```

```

<210> 432
<211> 485
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(485)
<223> n = A,T,C or G

```

<400> 432
 aaaaaaagta atggaaaaat gggtgcaggt ttaatcncaa aangaactta attttngtng 60
 attttgtttt atctgctaaa acactaatat ctataaatat gaactgacag catcggttcta 120
 aatttacttc tgaagagctg tcgagacttc aataaaatat aagcaagtta ctggatcata 180
 tttatggact gctgaattaa ctaccggaaa agtatcagtt actttcaaag aacacaaaac 240
 aaagtgaacg tggaaaaaag ccttccttgc aaaagtcctt ttattagtcc tatcctctaa 300
 aattccaagc cacagagcct tgatattcct ggattctggt ttaagtaacc ttagttttta 360
 atatgacact tgggatatgc acaatgggaa agggtaggat atgtgaacaa aatttaattt 420
 cttttttcca aaggnagnca ttttctttta atncatccta tccacttttg cccacttccc 480
 catgt 485

<210> 433
 <211> 280
 <212> DNA
 <213> Homo sapien

<400> 433
 actgtcacta caatattaca ttctgcaa at gttattctgt tgtatcagat acaaaat ttt 60
 agtgaggat ctctaaggca catagtagaa aacaaaattg gtttaattact caagttcctt 120
 tcaactgtgat ttggaaatga tttaatcttt atagaatgag aacctttttt ggactagctt 180
 ttttattaaa atggctcaat ttgtgttgat aaggattgca ttaatat tta atagtgttg 240
 cttttcctct gggcacacca ttttgatcat taaccagagt 280

<210> 434
 <211> 234
 <212> DNA
 <213> Homo sapien

<400> 434
 ctttgctgcg catcagggtgc ttttaagcttc ggaacaactg tgcaggattc tatttttagta 60
 ttctggaagc atcattgagg aagtagtcca gtgaagttag ctctaaaaaa actctttact 120
 ctaacaatta aaagaaatat gccaaaggat ccataaggga tgaataaatt attaaactat 180
 taagaagttg ctataaatat gcagtgttaa ttcaataatt cataacggac tgggt 234

<210> 435
 <211> 330
 <212> DNA
 <213> Homo sapien

<400> 435
 acctcccgtg tcaccagttc ccacagaagc actgcaaaac tccacatgtc tgctgagcgt 60
 ctgttttgtt cttcaggctt cttctgcaga gcttcggggg ctaccaggc aggtgcatac 120
 atgcgaccag gacattggaa agagaacttg acatcagcca tgctaattcg ggcagtcag 180
 tcctcatcaa tcattacact acggctattg agtgcatgtc gtgggatgag gggctctagt 240
 gtgtgtagga aagccatgcc ccttgccatg tccaaagcaa acttcacagc ctggctctgg 300
 tccacgacga aattggtgcc ttcattgtag 330

<210> 436
 <211> 311
 <212> DNA
 <213> Homo sapien

<400> 436
 acaactttac aatggaattg tatttcaatg attat tttga tatcagatta aaccttccaa 60
 aaagttacac ataattcagg tctat ttttt ctaccagtaa gagttctgct aaattacaaa 120
 accccataat cacagtgttc agttttttaa aaattaaaca cacagtaatc ctgtcaatgt 180
 taatcaaaaat caaaaacttcg gaatgcogtg gcatttatgt gaccaatctg agtttttagat 240

acaaataacca gctgtttatc ccatgaacca tttttcctag gctgaggctg tgaaaaatcg 300
aaagtcggcg t 311

<210> 437
<211> 355
<212> DNA
<213> Homo sapien

<400> 437
actagtggat ggggggtcagg gtgtcactcc aaggccctct acagaccag agaagaggaa 60
agtcaaaaaa gccagatatg agactgctga agtgggtgta agaaatatag gcaaggtaaa 120
gggaacaaga tctgggctcc ctctacttg tgtccctcac tggacctcag acaccctacc 180
tctaagactg gttcttagaa ggctgaacag taaggagcat tccaatagct tctgaaactc 240
ccaaggctgt ttcaagtagt cgaaagccat ccctggactg ttcagggtgcc ttttctattt 300
cccacctgag ctctctgccc tttctttgag cctcacaggt ttccagaatt acagt 355

<210> 438
<211> 431
<212> DNA
<213> Homo sapien

<400> 438
acagtaactt taactttaca tagagctgag ataaaaataa agcttttctta caaattacat 60
tttttttcca gtgaattact tttgcagtaa aaatagctgc tacataaatc cctcctgatc 120
tctgaaaagg agttgcatat ttccaaaaat aatatttctta ttttaatcac acagaagaac 180
gtggagcaca ggaaggaaat ggctgggtgg tcagagagag gtgagctgtc ggagaaacac 240
agttaaacta aaaaataaaa tccattttgt gtataaactg acttaaacgc atgcaaagaa 300
gtggaaaaca tatgccattt gtcaagaaaa atactgcttt atagctttta ctttacaatt 360
aaaggagaaa gcagaggcca gatataagcc cagataataa catttaagtt tctcataaaa 420
ctcccaaatg t 431

<210> 439
<211> 170
<212> DNA
<213> Homo sapien

<400> 439
actgtcataa aaaacagtgg agctctgtat tagaaagccc ctcagaactg ggaaggccag 60
gtaactctag ttacacagaa actgtgacta aagtctatga aactgattac aacagactgt 120
aagaatcaaa gtcaactgac atctatgcta catattatta tatagtttgt 170

<210> 440
<211> 400
<212> DNA
<213> Homo sapien

<400> 440
acgtaaaaag aacatccttc ccatcttcaa ggtcaagatt gaacgctgac tcctgcagga 60
agtcttccag gattcccagg caggaatgat ggctccctgt ccctgtagct ccaggagtgc 120
ttgcttcacg cagcctcac ataccagact gaatgttggc aggaggagtg accagggtcg 180
tcatctgtgt ccctaccacc tacaacaggc cagcaatcta cccgtgtgtg tttgttggac 240
agaattaacc atgatgggag gccgagggcg cctggagcta tttgggggct tggagagaac 300
ctcttaggag agtgtcaggc tctaggccag tgtcaccaga ggaggtcagt ctcagtcctt 360
ggagtgggtg gatggaaacc agacgggact ggcattgtcc 400

<210> 441
<211> 204
<212> DNA

<213> Homo sapien

<400> 441

acctagttac	ttcttaagat	caggtgtata	aaactgtgga	gtggagcgg	atggatatgga	60
atgacttgga	atgtaagctg	tcagggagaa	aatgttggtta	cacttttgct	aagatctggg	120
ggtttcttca	tattcctgct	gttggaagca	gttgaccaga	aatgcttgcc	agtactgcc	180
aagcactgct	gtgaaatgtg	aagt				204

<210> 442

<211> 649

<212> DNA

<213> Homo sapien

<400> 442

acattttaatt	ttttacaaca	ttttctccct	agagatataa	tttagatatt	cctatcttca	60
aagtaaaaaat	caaaatagga	aataagcata	gaaacagcct	attggcagtg	gttacacctg	120
catgggtattt	atgagtcctc	aaactattgg	aaatttattt	caaccaaggt	tctcttaagt	180
cttcattact	tgggtgtaac	tcgagagaaa	actaatttat	atcaatttac	agtttagtgg	240
tcattgatcag	gggaaagtga	tactcttcca	ctgactacaa	gtcattgcag	aggcagtta	300
gaacttttcc	tttattccta	atatacagga	caaaccttgc	cgacatctca	ctacctcaaa	360
aatcaaaattt	aaatgaagta	tcaggagta	gcctaaagaa	tgagtgtaat	ctggatggat	420
tttagtctaa	atttatgcct	tgctcttcag	taaagtatag	taactccaga	tatatgttcc	480
acagatgcaa	taatttctgt	tccttgttcg	gtgcagaata	taatttatac	ttcctgaaat	540
caactttgtc	tattcatgaa	aatagctgct	ttttatttgc	ctttgtctca	ctttgaatat	600
atatgatcca	caggttacag	acttttccaa	taactacatt	tcaacttgt		649

<210> 443

<211> 346

<212> DNA

<213> Homo sapien

<400> 443

acgtgggatt	gaaatgcaca	tacatgtttt	tgctaagagc	acatacattt	cattctcctc	60
actttgttca	taacctcagc	attgtcagat	aacctcagtg	agttaactca	aagcctttta	120
ttatggaaag	aactggcaca	gttacatttg	ccagtggcaa	catccttaaa	aattaataac	180
tgatgggtca	cggacagatt	tttgacctag	ttcctttttc	ttttagagca	aaaagaactt	240
ttacctcggc	atccagccca	accctaaag	actgacaata	tccttcaagc	tcctttgaaa	300
gcaccctaaa	cagccatttc	catttttaata	gttggatgcg	gattgt		346

<210> 444

<211> 425

<212> DNA

<213> Homo sapien

<400> 444

accaatttcc	ttttacagta	aaggggcttt	tcctgttgct	tggtgaaccg	gttcccagct	60
gcccattacc	accaagccca	aaagagtaaa	ttcgctcctga	tgaaggaaca	aaagcagaag	120
tgtgctgccg	tccacaagca	atctcagtg	caatgcttcc	cataagttca	aaaactttcc	180
ttgggtttat	ttcatgactg	gtagaattat	ggcccaactg	accataccct	ccagctccaa	240
aagtaaacac	tccaccttcc	ttgggttagag	cagcagtatg	atcttctcca	caacaaatat	300
aaactatttt	ctgagatctt	agtgacttta	gtaaattagg	aacataccta	tcattttcat	360
cattaagacc	tagctgacca	aacttgttgc	gtccccatcc	aaagatagct	ccagaaaggg	420
tgagt						425

<210> 445

<211> 210

<212> DNA

<213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(210)
 <223> n = A,T,C or G

<400> 445
 nactgtccca atataaaaca gtaattatTTT gacctttTga ctgtttgtct ggtccttttc 60
 agtttgattg catataaatg tggaacttga tagatctcta tttttttaat gcacttgtga 120
 taaactggca gcagggttag acattacttt caaagcttga ggtagaccga gtcagcatgc 180
 tagacaggct tctctctcta accaaaactg 210

<210> 446
 <211> 326
 <212> DNA
 <213> Homo sapien

<400> 446
 tcgaaagacc cctgtaaaag agcccaacag tgaaaatgta gatatcagca gtggaggagg 60
 cgtgacaggc tggaagagca aatgctgctg agcattctcc tgttccatca gttgccatcc 120
 actaccccgT tttctcttct tgctgcaaaa taaaccactc tgcccatttt taactctaaa 180
 cagatatttt tgtttctcat cttaactatc caagccacct attttatttg ttctttcatc 240
 tgtgactgct tgctgacttt atcataattt tcttcaaaca aaaaaatgta tagaaaaatc 300
 atgtctgtga gttcattttt aaatgt 326

<210> 447
 <211> 304
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(304)
 <223> n = A,T,C or G

<400> 447
 ncntcnaggt acatgctaga agtctgatgt ngtnngtaac acagaaacat acacagtctt 60
 catattcaaa gtcttcacng ggatgtcggt ctgtaatttc ctgcgtttgg gtctcttcca 120
 gaaacagctt tagcttctg ctccgaaggc caaacacctt ggctgcttca tacagaagac 180
 cttggtgggt gagtccattc tgcccaagtg ggttttcaag caggagagtg cccactgtcc 240
 ccattaaaca ctcttgtggc tttgcattca ggagctgtag gttgatatac tgacaaggaa 300
 gagt 304

<210> 448
 <211> 203
 <212> DNA
 <213> Homo sapien

<400> 448
 acatgaaagc ggcaatgcgg taaaaagcga attcttacct aaggtcagaa ttttttatta 60
 agcgcatTTT cattagtTgT acaaacaacc ttataaaccT ttatgtcaaa ccatataatg 120
 tgaagaatct ccatgggaga gatttttttt cacccttcag aattatcttt tccccctaag 180
 accttcatat gaatcttctt tgt 203

<210> 449
 <211> 481
 <212> DNA
 <213> Homo sapien

127

<220>
 <221> misc_feature
 <222> (1)...(481)
 <223> n = A,T,C or G

<400> 449
 acttgttcta taatactctg atgtttcctt aaattcctga acaacattct gtttactaaa 60
 tttcttttct tcctttattc acaccaaatt ccacctata atagaagcta attatttcag 120
 aaagcttttt agtgatcatt tattactttg tgtttactag atattaattc taagatgaat 180
 tccttttagaa ttttagaaaa aattattcta gacaacaatc aaagtaaagg atacatccag 240
 cattgaaacc ataagccggc aagtctccag gttaaaagggt ttgtatcctc cagcaatgcc 300
 agactgtgtc agacatctct gcaattcatc agcatctatc tgcccatcct gtccagctac 360
 agcagcaaag taaccataca gcggatcctg agtttgtccg ggaaacgcag gccctccggg 420
 agccctcca tactgcatct tgagttgaag tcttatangt agaagctggg gatccttaga 480
 g 481

<210> 450
 <211> 296
 <212> DNA
 <213> Homo sapien

<400> 450
 acatggttta atacaacaac aaaaaaattt aatcaagtga aacgtaataa actgaacaat 60
 aaacactcaa aacattttcc attggaaaaca tgtaaagaca atatgagggt ttgttaccat 120
 cttactgcaa ttttcttatg tgttactagt ctacataccc catgttttct gtaatcatgc 180
 agatgtgaat ggaagtttga atgattaaat aaatgaaaag tccgttttact gcagggaatc 240
 atttcacaag gcagccaaac cgggtttaga gaacaaaact attcaagaaa ttctcc 296

<210> 451
 <211> 294
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(294)
 <223> n = A,T,C or G

<400> 451
 acatgntcca aggcacgcgn ctgtgaactt cctctgagtg aaggcatccc ctccagcacc 60
 tttcagcctg ctagttagga cgaccgcgcg ccacctcca ggacctccag ccttgcactg 120
 cctttcctct cttttaaata attcttcatt gagttctaata atgtaaaaaa aaagtttact 180
 gtaaagtttg caaataanga aatttttttt aaaagtcctc agtaattctta ccagtaacaa 240
 ttgttatggg cacatttgct tttggaagat ttcttttgta tgcatgggat aagt 294

<210> 452
 <211> 129
 <212> DNA
 <213> Homo sapien

<400> 452
 acttttagat cacaaatttg cctttaagta acacataata cacttaaggc agatttgcct 60
 tacagggtgc ctgagcttct aaacaccact acactgcttt atataaaaaa caaaaatcac 120
 atagaagag 129

<210> 453
 <211> 151

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<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(151)
<223> n = A,T,C or G

<400> 453
actctcaann tgtatttagg tgccaacaca ttaggatca ttgngnnttc tcagtgaatt      60
gaccttttta tgagaataaa atgtctatct ctgaaatgtc cctatttctg gaaatgttcc      120
ttatactaaa gtccaacttg tgtggattan t                                     151

<210> 454
<211> 119
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(119)
<223> n = A,T,C or G

<400> 454
tgctgatgna gcatgctttt taaatccttt aaaaacactc accatataaa cttgcatttg      60
agcttggtgtg ttcttttgtt aatgtgtaga gttctccttt ctcgaaattg ccagtgtgt      119

<210> 455
<211> 515
<212> DNA
<213> Homo sapien

<400> 455
accttataaa gttccttttc atccttctct gtcttcaact gacattcaag ttgttctctt      60
tcatgttggtg ccttcttgag tttggccttt aaactgtcta attcggtttc tttttcaatt      120
gctttatgtg ttactgacac aatatcttcc tcaagctgat gggctttgga tgtagcatca      180
ctgaacctct tcttaaacctc ttcattttcc atttttaagc tttgtgttac ttcagtaaga      240
cccttttgtt ctgcttgacg ttggtcacat ctttctttct catggttaag ttctctttcc      300
attctcccaa cttgttctcg aagttgtgct gtttcttttt ccagaacggc aattaacttt      360
aacagttctt ctttttcttt catggttttc tcaattttca actcaagaag gcctgctttt      420
gtggtcacca ctaacatgtc agaatttcct tcatcttcca tagtaagcag ctcttcaact      480
ggagaagaag ctcgaaactg gaaagggtga cctgc                                     515

<210> 456
<211> 350
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(350)
<223> n = A,T,C or G

<400> 456
actcccctcc ccaaatagaa acctcaaaga ctgatccatt tcccctaggg cctggggccag      60
gagtagctca ctgctcactg ctgaggagaa aggcacaaga tataatgtca taagagcagg      120
acagtggctc agcctacaga gttccctata ggggaaagaa ggcaggaaat aggcgcaggg      180
tctggtcctg tcctcgcacc accctgagca gctagtcttg ggaagggtt acaggccctg      240

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ggccataggc	tgctcgccat	tctgctttcc	tatcctgttt	ctctccctgt	gctgctccct	300
tttagccagn	gctgagaaat	gttcancacc	tgaggcaaaa	ctgccatagt		350

<210> 457
 <211> 293
 <212> DNA
 <213> Homo sapien

<400> 457						
gcagggccaa	cagtcacagc	agccctgacc	agagcattcc	tggagctcaa	gctcctctac	60
aaagagggtg	acagagaaga	cagcagagac	catgggaccc	ccctcagccc	ctccctgcag	120
attgcatgtc	ccctggaagg	aggtcctgct	cacagcctca	cttctaacct	tctggaaccc	180
accaccact	gccaagctca	ctattgaatc	cacgccattc	aatgtgcgag	aggggaagga	240
ggttcttcta	ctcgcccaca	acctgcccc	gaatcgtatt	ggttacagct	ggt	293

<210> 458
 <211> 500
 <212> DNA
 <213> Homo sapien

<400> 458						
actagactcc	agattaccct	ttcttaataa	atatctcagg	gtaaggaaag	aaagaaactg	60
tatagatata	tttaaaatag	agaatacttt	ccaagcaata	catgatgcct	ttcctaaaag	120
actctaaaag	aaaaagattc	tgtaactctc	ttttagcacc	aaattattgt	ttatcttgct	180
ggatatttta	tatgaacagt	gttaatttag	atgcactaaa	gcaaaggtag	gcaaactaca	240
accatgagtc	aaacatggcc	acacccattc	atttgctatt	gtctaagctg	gttttgcact	300
acaactgcag	agttgaatag	atgcagcaga	tccttttacag	aaaaagtttt	ctgacctcaa	360
ttctaaagta	attgtagtag	ggagctggag	gactttcttt	ccctttatgg	taattttttg	420
agctacaaaa	agagcccttg	agaaatgggt	gaagggatta	atctttttaa	aataaatgct	480
atatatttag	aaaataaaaa					500

<210> 459
 <211> 394
 <212> DNA
 <213> Homo sapien

<400> 459						
ggtgaaaaga	cttgatTTTT	tgaaaggatt	gtttatcaaa	cacaattcta	atctcttctc	60
ttatgtatTT	ttgtgcaact	ggcgagttg	tgtagcagtt	gagtaatgct	ggttagctgt	120
taagggtggc	tggtgcagtg	cagagtgcct	ggctgtttcc	tgTTTTctcc	cgattgctcc	180
tgtgtaaaga	tgcttgtctg	tgcaaaaaca	aatggctgtc	cagtttatta	aaatgcctga	240
caactgcact	tccagtcacc	cgggccttgc	atataaataa	cggagcatac	agtgaacaca	300
tctagctgat	gataaatata	cctTTTTttc	cctcttcccc	ctaaaaatgg	taaactctgat	360
catatctaca	tgtatgaact	taacatggaa	aatg			394

<210> 460
 <211> 279
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(279)
 <223> n = A,T,C or G

<400> 460						
actnccgatt	gaagccccc	ttcgtataat	aattacatca	caagacgtct	tgcaactcatg	60
agctgtcccc	acattaggct	taaaaacaga	tgcaattccc	ggacgtctaa	accaaaccac	120

```

tttcacgct acacgaccgg gggatatacta cggatcaatgc tctgaaatct gtggagcaaa 180
ccacagtttc atgcccacgc tcctagaatt aattccccta aaaatctttg aaatagggcc 240
cgtatttacc ctatagcacc ccctctagag caaaaaaaaa 279

```

<210> 461

<211> 278

<212> DNA

<213> Homo sapien

<400> 461

```

tttggacact aggaaaaaaac cttgtagaga gagtaaaaaa ttttaacaccc atagtaggcc 60
taaaagcagc caccaattaa gaaagcggtc aagctcaaca cccactacct aaaaaatccc 120
aaacatataa ctgaactcct cacacccaat tggaccaatc tatcaccta tagaagaact 180
aatgttagta taaagtaaca tgaaaacatt ctctccgcga taagcctgcg tcagattaaa 240
acactggact gacaattaac agccaatatc tacaatca 278

```

<210> 462

<211> 556

<212> DNA

<213> Homo sapiens

<400> 462

```

aacgtccaag ggggccacat cgatgatggg caggcgggag gtcttgggtg ttttgtattc 60
aatcactgtc ttgccccagg ctccggtgtg actcgtgcag ccatcgacag tgacgctgta 120
ggtgaagcgg ctgttgccct cggcgcggat ctcgatctcg ttggagccct ggaggagcag 180
ggccttcttg aggttgccag tctgctgggt catgtaggcc acgctgttct tgcagtggta 240
ggtgatgttc tgggaggcct cgggtggacat caggcgcagg aaggtcagct ggatggccac 300
atcggcaggg tcggagccct ggccgccata ctcgaaactgg aatccatcgg tcatgctctc 360
gccgaacccg acatgcctct tgtccttggg gttcttggct atgtaccagt tcttctgggc 420
cacactgggc tgagtggggg acacgcaggc ctccaccagtc tccatgttgc agaagacttt 480
gatggcatcc aggttgacgc cttggttggg gtcaatccag tactctccac tcttccagtc 540
agagtggcac atcttg 556

```

<210> 463

<211> 659

<212> DNA

<213> Homo sapiens

<400> 463

```

cacactgtgc ccttccagtt gctggcccgg tacaaaggcc tgaacctcac cgaggatacc 60
tacaagcccc ggatttacac ctgcgccacc tggagtgcct ttgtgacaga cagttcctgg 120
agtgcacgga agtcacaact ggtctatcag tccagacggg ggccttttgt caaatattct 180
tctgattact tccaagcccc ctctgactac agatactacc cctaccagtc cttccagact 240
ccacaacacc ccagcttcct cttccaggac aagagggtgt cctgggtccct ggtctacctc 300
cccaccatcc agagctgctg gaactacggc ttctcctgct cctcggacga gctccctgtc 360
ctgggcctca ccaagtctgg cggctcagat cgcaccattg cctacgaaaa caaagccctg 420
atgctctgcg aagggtctct cgtggcagac gtcaccgatt tcgagggtct gaaggctgcg 480
attcccagtg ccctggacac caacagctcg aagagcacct cctccttccc ctgccgggca 540
gggcacttca acggcttccg cacggtcatc cgccccttct acctgaccaa ctctcagggt 600
gtggactaga cggcgtggcc caagggtggt gagaaccgga gaacccagc acgccctca 659

```

<210> 464

<211> 695

<212> DNA

<213> Homo sapiens

<400> 464

```

accttcattt gaccccatca gcttcagggc cttctttaca tttccactgg cctgatccat 60

```

131

```

gtatgcaatg ctatTTTTTgc agtgatatgt gatgttctgg gaagctcggc tggagagaag 120
tcgaaggaat gccagctgca catcaaggac atcttcagga agttcaggat tgccgtagct 180
aaactgaaaa ccaccatcca tggactctcc aaaccaaacg tgtttcttct cagcactaga 240
atctgtccac cagtgtttcc gtggaacatt caaaggattg gcacttatgc atgtttcccc 300
agtttccata ttacagaata ccttgatagc atccaatttg catccttggg tagggccaac 360
ccagtattct ccactcttga gttcaggatg gcagaatttc aggtctctgc agtttctagc 420
gggggtttta cgagaacat caggactaat gaggctttct attgtccat taacagactt 480
gagtgaagtc ataatctcat cgggtgtgat ttgaaatcc attggttcat ctccataata 540
cggggcaaaa ccgccagctt ttccacctcc aatcccagca atggcagcgg ctccaacacc 600
accacagcaa ggaccagggg caccaggagg tccaggaggg cctggttgcc ctgggtggcc 660
tggggagccc tcagatctc ttccacctct gttac 695

```

<210> 465

<211> 73

<212> DNA

<213> Homo sapiens

<400> 465

```

cagggtccaga gctcccaggt ttccagggtg cagtccctcc agtcccagag ctcccagggt 60
ttcggtttcc agt 73

```

<210> 466

<211> 507

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(507)

<223> n = A,T,C or G

<400> 466

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agcactggca gaggnagcca aatatagtga tgtgcgccag agataagtat tctcctctcc 60
aagcatattg ctatacaaga ctttaaagac ttcataaaaag ccaaacttgc agagtccctg 120
catggagtag ccaaggaaag tcggagccca tccttttagcc aaaccacgaa caccatcctc 180
tttaagtgtg actgagaatc cgtaaatat gcccttgtag ttttgggggt ccacctgcat 240
acggcatttc actaaatcca ggggaaccac agcagtgtgt gtcagaccac aacttaagac 300
cccaccaaag ccacacagtg cataatactt cgcgagacca aattcacaac tgtactcttc 360
cacggcggcg gctgccaggt tgcgagggcg gcggggctgg cccgtgggcc ctggggagct 420
gctgcggagg tccccgagac catcgtgcac canctgcaga tgtggcgtgt tgaagggggt 480
cgcccgcgcc aggtgcgcca cggacga 507

```

<210> 467

<211> 183

<212> DNA

<213> Homo sapiens

<400> 467

```

cctcatgagc taccgggcca gctctgtact gaggetcacc gtctttgtag gggcctacac 60
cttctgagga gcaggaggga gccaccctcc ctgcagctac cctagctgag gagcctggtg 120
tgaggggcag aatgagaaag gcaataaagg gagaaagaaa aaaaaaaaaa aaaagggcgg 180
ccg 183

```

<210> 468

<211> 129

<212> DNA

<213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(129)
 <223> n = A,T,C or G

<400> 468
 gcggccgcgt cgaccggcgc cgtcggggcnc cgggcccgggc catggagctg tggacgtgtc 60
 tggcccgccgc gctgctgttg ntgntgctgn tgggtgcagtt gagccgcncn gccgagttct 120
 acnccaang 129

<210> 469
 <211> 243
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(243)
 <223> n = A,T,C or G

<400> 469
 gcggccgcgt cgacnngcca tggagactgt ggcacagtag actgtagtgt gaggctcgcg 60
 ggggcagtggt ccatggaggc cgtgctgaac gagctgggtgt ctgtggagga cctgctgaag 120
 tttgaaaaga aatttcagtc tgagaaggca gcaggctcgg tgtccaagag cacgcagttt 180
 gagtacgcct ggtgcctggt gcggagcaag tacaatgatg acatccgtaa aggcacgtgt 240
 ctg 243

<210> 470
 <211> 452
 <212> DNA
 <213> Homo sapiens

<400> 470
 cctcaagtac gtccggcctg gtgggtgggtt cgagcccaac ttcattgctct tcgagaagtgt 60
 cgaggtgaac ggtgcggggg cgcaccctct cttcgcccttc ctgcgggagg cctgccagc 120
 tcccagcgac gacgccaccg cgcttatgac cgaccccaag ctcatcacct ggtctccggt 180
 gtgtcgcaac gatgttgctt ggaactttga gaagttcctg gtgggccctg acggtgtgcc 240
 cctacgcagg tacagccgcc gcttccagac cattgacatc gagcctgaca tcgaagccct 300
 gctgtctcaa gggctcagct gtgcctaggg cgccctcctt accccggctg cttggcagtt 360
 gcagtgctgc tgtctcgggg gggttttcat ctatgagggt gtttcctcta aacctacgag 420
 ggaggaacac ctgatcttac agaaaatacc ac 452

<210> 471
 <211> 168
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(168)
 <223> n = A,T,C or G

<400> 471
 cttctccgct ccttctanga tctccgcctg gttcggncgc cctgcctcca ctccctgcctc 60
 taccatgtcc atcagggtga cccagaagtc ctacaagggtg tccacctctg gcccccgggc 120
 cttcagcagc cgctcctaca cgagtggggc cggttcccg c atcagctc 168

<210> 472

<211> 479
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(479)
 <223> n = A,T,C or G

<400> 472
 gccaggcgtc cctctgtctg ccctactcagt ggcaacaccc gggagctggt ttgtcctttg 60
 tggagcctca ncagttccct ctttcanaac tcactgccaa gagccctgaa caggagccac 120
 catgcagtg cttcagcttca ttaagacccat gatgatcctc ttcaatttgc tcatctttct 180
 gngtggcgca gccctgttgg cagcgggcat ctgggtgnca atcgatgggg catcctttct 240
 gaagatcttc gggccactgt cgtccactgc catgcagttt gtcaacgngg gctacttct 300
 catcgagcc ggcgttgttg tntttgtctt tggtttctct ggctgctatg gtgctaana 360
 tgagagcaag tgtgccctcg tgacgntctt ctccatcctc ctctctntct tcattgctga 420
 ggnctgcagnt gctgaggtcc gccttgggtg acaccacaat ggctgagccc ttntctga 479

<210> 473
 <211> 69
 <212> DNA
 <213> Homo sapiens

<400> 473
 gagcgatgga gcgtgggtag ggaggggtcca cagtgtccac tcgccgtgtg cgaagggttga 60
 ctccgtagt 69

<210> 474
 <211> 155
 <212> DNA
 <213> Homo sapiens

<400> 474
 gccgccactg ccgggagagc tcgatgggtt tctcctgcgc gccgcccgtt gtctggccga 60
 gtccagagag ccgcggcgcc tcgttccgag gagccatcgc cgaagcccga ggccgggtcc 120
 cgggttgggg actgcagggg aaggcagcgg tggcg 155

<210> 475
 <211> 282
 <212> DNA
 <213> Homo sapiens

<400> 475
 ggcttcgacg ttggccctgt ctgcttctct taaactccct ccatcccaac ctggctccct 60
 cccacccaac caactttccc cccaacccgg aaacagacaa gcaacccaaa ctgaaccccc 120
 tcaaaagcca aaaaatggga gacaatttca catggacttt ggaaaatatt tttttccttt 180
 gcattcatct ctcaaaactta gtttttatct ttgaccaacc gaacatgacc aaaaacccaa 240
 agtgcattca accttaccaa aaaaaaaaaa aaagggcggc cg 282

<210> 476
 <211> 434
 <212> DNA
 <213> Homo sapiens

<400> 476
 ctccaggaca gcgtccagct tgggtgtcgtt gaagacgaag tggagcggat ggttgtagaa 60
 acgagtgatg gtgctgagcg gcgtgcagtc ttccgggatcc acgaaggcca agtccttgag 120

134

```

gtagagcatg tccacgatgt tggagcgctc ctctcgtac accgggatgc gcgtgtggcc 180
gctctgcatg atgctggcca ggacgccgaa gtccagcacg gtgctggcgt ccagcatgaa 240
gcagtcttcg aggggctga gcacgtctc cacggtccg cagcgagca cgccttgct 300
gagatcgctg taggggtcgc cgccgccgcg cgccagctcc agcaccgct cccgcagccg 360
ccccggccgc gccgccagct ccagcagctg cccacgggc agcgcgacgg gcagagtga 420
caggacggcc aggc 434

```

<210> 477

<211> 314

<212> DNA

<213> Homo sapiens

<400> 477

```

ggcggggcgt agctggctcc gggcagctcg gccttggggg cttcggggcc ccgagacgcg 60
gggcgtatga gtggggcggt cgctccacgc ggaagtcgga gcctcctccc ctggataggg 120
tgtacgagat ccctggactg gageccatca cctttgcggg gaagatgcac ttcgtgccct 180
ggctggcgcg gccgatcttt ccgccctggg accgcggcta caaggacca aggttctacc 240
gctcgcccc tcttcacgag catccgctgt acaaagacca ggctgctat atctttcacc 300
accgttgccg cctt 314

```

<210> 478

<211> 317

<212> DNA

<213> Homo sapiens

<400> 478

```

aacagagtga tcattccagt taagcggggc gaagagaata cagactatgt gaacgcatcc 60
tttattgatg gctaccggca gaaggactcc tatatcgcca gccagggccc tcttctccac 120
acaattgagg acttctggcg aatgatctgg gagtggaaat cctgctctat cgtgatgcta 180
acagaactgg aggagagagg ccaggagaag tgtgcccagt actggccatc tgatggactg 240
gtgtcctatg gagatattac agtggaactg aagaaggagg aggaatgtga gagctacacc 300
gtccgagacc tctggt 317

```

<210> 479

<211> 171

<212> DNA

<213> Homo sapiens

<400> 479

```

aggtgctttg ctagatgctg tgacaggtat gccaccaaca ctgctcacag cctttctgag 60
gacaccagtg aaagaagcca cagctcttct tggcgtatct atactcactg agtcttaact 120
tttcaccagg ggtgctcacc tctgccccta ttgggagagg tcataaaatg t 171

```

<210> 480

<211> 65

<212> DNA

<213> Homo sapiens

<400> 480

```

ccccagtgga aaggctccca ccctggtaga tgaacagccc ctggagaact acctggatat 60
ggagt 65

```

<210> 481

<211> 207

<212> DNA

<213> Homo sapiens

<400> 481

```

cacagcgtgc tctgcggggt cactcccact ttgttagtga tgtgggttate tcctcagatg 60
gccagtttgc cctctcaggc tcctgggatg gaaccctgcg cctctgggat ctcacaacgg 120
gcaccaccac gaggcgattt gtgggccata ccaaggatgt gctgagtgtg gccttctcct 180
ctgacaaccg gcagattgtc tctggat                                     207

```

<210> 482

<211> 319

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(319)

<223> n = A,T,C or G

<400> 482

```

cacactgtgc ctttcagtt gctggcccgg tacaaggcc tgaacctcac cgaggatacc 60
tacaagcccc ggatttacac ctgcgccacc tggagtgcct ttgtgacaga cagttccctgg 120
agtgcacgga agtcacaact ggtctatcag tccagacggg ggcctttggg caaatattct 180
tctgattact tccaagcccc ctctgactac agatactacc cctaccagtg cttccaaact 240
gcacaacacc cnagcttntc cttccagnac aagagggtgt cctgggccct ggcctacctc 300
cccaccatcc agagctgct                                     319

```

<210> 483

<211> 233

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(279)

<223> n = A,T,C or G

<400> 483

```

acaggcccag tggcgccctag ctttcagctg ctgggctctc ccgagccctgc cttagcccat 60
acaaccactt gatcacgcgg gcattgcgct ccaccaccga cacgccatag ggaacgcgct 120
cccggggccc ctctcaaca gtcaccgagc tgccggcgga gcagccccct tcagagctgc 180
ccggcccagc actgggccct gccagggaca cnatatccga gctggcccgt gcc          233

```

<210> 484

<211> 194

<212> DNA

<213> Homo sapiens

<400> 484

```

agagcccttg ctggggggtg cctgggagat ggggtaagaa gagctttcat ttgtctggta 60
gatagatagc atgtaagggg gtggttgctc caggaggcag ctgctgacag gtttgctaca 120
cacagccccg gactgtgttg cctgggtgct cattcagaga ggggctatca tctgggagcc 180
tgtgccctg ggctc                                     194

```

<210> 485

<211> 67

<212> DNA

<213> Homo sapiens

<400> 485

```

tccatatcca ggtagttctc caggggctgt tcatctacca ggggtgggagc ctcccactgg 60
gggaagt                                     67

```

<210> 486
 <211> 70
 <212> DNA
 <213> Homo sapiens

<400> 486
 taccgagtca accttcgcac acggcgagtg gacactgtgg accctcccta cccacgctcc 60
 atcgctcagt 70

<210> 487
 <211> 257
 <212> DNA
 <213> Homo sapien

<400> 487
 actcccgatt gaagccccca ttctgtataat aattacatca caagacgtct tgcactcatg 60
 agctgtcccc acattaggct taaaaacaga tgcaattccc ggacgtctaa accaaaccac 120
 ttccacgct acacgaccgg gggatatacta cggatcaatgc tctgaaatct gtggagcaaa 180
 ccacagtttc atgcccacgc tcctagaatt aattccccta aaaatctttg aaatagggcc 240
 cgtattttacc ctatagt 257

<210> 488
 <211> 378
 <212> DNA
 <213> Homo sapien

<400> 488
 actctgctat ggtgctggct tccttttaaac tcaggataga tgccagggtg gctccgtttc 60
 cgtaagactg aactcagagc tcggcatcag accagttcct cagcttcctg aagtaaccat 120
 agcaattgga cttgtggtaa aaccatccag gagcacagct gggctctcatg atgatcac 180
 ccaggactcc tgttttgcc aggagctca gcaataggag cagccgcatg cttctggaag 240
 ccatcttcct cctaccctga ggatgtagct agtgcaagga tctcagagac cttactagcg 300
 cttctttgaa actcctgggt tctccttgat ctgcaaatct gtytggcaac caagactcta 360
 agggcccctg cttcttc 378

<210> 489
 <211> 429
 <212> DNA
 <213> Homo sapien

<400> 489
 ccgagggtaca cagaagtttg aatcacaaaa cataattacc acaataaaac acagtgttca 60
 agtatcttgg cagagcaatc tgccgcacaa actgcaaatt aaattaacta cacagactaa 120
 aaactataca gcctaccatc aacagttgtg cattataaaa aggtagtctt tttccttttg 180
 ttttaagtca ggaacaggta gattttttaa aatatatata caagctaaca cacacrgcta 240
 tcagcactaa tgccccccc tcaacttttc ctttttctta tagaaaatgg aaagcttaca 300
 atacctctc srtymwrgmr scagrcctwc gagccwgcct grasagggtk wgcmttggar 360
 magmtstgkc ctgaggttta gagccgcttt gtgcggggat ggtggaggct aggggtgggg 420
 tgagaaaag 429

<210> 490
 <211> 532
 <212> DNA
 <213> Homo sapien

<400> 490

ttggattgcc	acacggctca	cattgcatgc	aagtttgctg	agctgaagga	aaagattgat	60
cgccgttctg	gtaaaaaagct	ggaagatggc	cctaaattct	tgaagtctgg	tgatgctgcc	120
attgttgata	tggttcctgg	caagcccatg	tgtgttgaga	gcttctcaga	ctatccacct	180
ttgggtcgct	ttgmgtgtg	atatgagaca	gacagytgog	gtgggtgtca	tcaaagcagt	240
ggacaagaag	gctgctggag	ccggcaaggt	caccaagtct	gccagaaaag	ctcagaaggc	300
taaatgaata	ttatccctaa	tacctgccac	cccactotta	atcagtgggtg	gaagaacggt	360
ctcagaactg	tttgtttcaa	ttggccatth	aagtttagta	gtaaaagact	ggttaatgat	420
aacaatgcat	cgtaaaacct	tcagaaggaa	aggagaatgt	tttgtggacc	actttgggtt	480
tcttttttgc	gtgtggcagt	tttaagttat	tagtttttaa	aatcagtacc	tc	532

<210> 491

<211> 567

<212> DNA

<213> Homo sapien

<400> 491

tcgaggtaca	aaagcccttc	aaaaggagtt	cagcttttat	aaacacccaa	acactctctg	60
cctgtaaaat	gtttttgctg	aaatttgat	cattaactct	caaatttaca	tcttcatggt	120
tgagatacgc	ttttaggact	gtctatgcat	gtagactttg	gtcaactctc	tcctcctccc	180
tcaataaatc	agttaactta	aaaaatatat	tgtgaccatt	ttataaaaat	acatgttcat	240
aaaacagatc	aacataattt	gcttatacag	aaataaaaatt	aagtcaatcc	actcacaagg	300
aatttctatt	ttgtaaaaat	gtagcttgta	tttcagtata	ataaaaatctg	atgcaaaaaa	360
cctgcccggg	cggcaagtgt	gctggaattc	tgacakatatc	catcacactg	gcgsgcgtc	420
gagcatgcat	ctagagggcc	caattsgccc	tatagcggcg	cattaagcgc	ggcgggkgtg	480
gtggwtacgc	gcasygtgac	cgmtacactt	gccarcgccc	tagmgcmcgc	tcctttcgcw	540
ttcttccctt	cctytctcgc	cacgttc				567

<210> 492

<211> 422

<212> DNA

<213> Homo sapien

<400> 492

agtgtgctgg	aattcgccct	tggccgcccg	ggcaggtaca	agactcaata	atcacctgac	60
tgagctccaa	ttaactgagg	agaaacgggg	tggaggagag	ggctgggtgc	tattcagact	120
tgataatgag	attgatctgt	cccatggaga	gtgaaagttc	agttccactt	ctgcctcctt	180
ctttccatgc	tgctctcatg	ctctttatcc	tcacttcctc	agtcccttca	acactcaaaa	240
tctgatttta	tttctctctc	acacgtatca	ggggcagttt	ctgaagttgc	tgagggtgaa	300
ttttcttcac	aaacctctat	aaaacatcag	cagagaacat	ataaatacat	tttgattagc	360
atacattgca	aaatttctcc	cacaatgtca	ggggatgaaa	gcaggtggtc	cccactgaga	420
gt						422

<210> 493

<211> 318

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(318)

<223> n = A,T,C or G

<400> 493

agtgtgctgg	aattcgccct	tagcggccgc	cctggcaggt	aagctttttt	tttttttttt	60
tttttttgat	gattaacatc	tttaattcaa	atgkaaaagt	tcaatacaag	ccatttatag	120
ggcttgagat	ttgttggtct	tttaaaaaca	araaatgggg	aaatgcaaca	aaatgacott	180
tccacttttc	aaaagctttc	aagtaaagga	tagatcatag	ggccataaaa	gatccattta	240
atsaaaccca	cttttyaccc	cctaccaatt	gtcttacacc	cantccacaa	tcttaataca	300

tattcctgaa natttaca

318

<210> 494

<211> 360

<212> DNA

<213> Homo sapien

<400> 494

accttttact	acaacaagta	aacatgcata	ataaagtagg	attcatccaa	tgtctgacct	60
ttctttgcat	caaaagaaca	tttccggcca	ggcacggtgg	ctcacgcctg	taatcccagc	120
actttgggag	gccgagccag	gtggatcacg	aggtcaggag	atcgagacca	gcctggctaa	180
catggtgaaa	ccctgtctct	actaaaaata	caaaaatgag	ccgggcatgg	tgggggggca	240
ccgtagtccc	agctacttga	gaggctgaga	caggagaatg	gcgtgaaccc	ggggggcgga	300
gcttgtagtg	agccgagatc	gcgccactgc	actccagcct	gggtgacaga	gtgagactcc	360

<210> 495

<211> 329

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(329)

<223> n = A,T,C or G

<400> 495

gaggctctggg	atggggcttc	actgctgtga	cttcctcctg	ccaggggatt	tggggctttc	60
ttgaaagaca	gtccaagccc	tggataatgc	tttactttct	gtgttgaagc	actgttggtt	120
gtttggttag	tgactgatgt	aaaacggttt	tcttggtggg	aggttacaga	ggctgacttc	180
agagtggact	tgtgtttttt	ctttttaaag	aggcaagggt	gggctgggtc	tcacagctgt	240
aatcccagca	ctttgaggtt	ggctgggant	tcaagaccag	cctggccaac	atgtcagaac	300
tactaaaaat	aaagaaatca	gccatgaaa				329

<210> 496

<211> 292

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(292)

<223> n = A,T,C or G

<400> 496

acctgggatg	aggtgggtgg	agctttgaat	ctaccactat	ccaggccaca	cacctagaag	60
ctctggtttc	attgtttcat	tgatttcatt	gttttgattg	atgctgacct	taggcagcag	120
agttttcaat	gctctccagg	tgtttctaaa	gtgcagacaa	gtttangacc	gtgcttgagg	180
gtgaagggca	ggactgtgat	ggggaggggc	aaatatgggg	cccttggggg	gcaggcaatg	240
gttttccttg	acctgaatgg	gggtctcaca	ggtgttgcat	atacatatac	gt	292

<210> 497

<211> 549

<212> DNA

<213> Homo sapien

<400> 497

tcgaggtacc	gaccatagag	caagaatcaa	gattctgcta	actcctgcac	agccccgtcc	60
tcttcctttc	tgctagcctg	gctaaatctg	ctcattattt	cagaggggaa	gcctagcaaa	120

ctaagagtga	taagggccct	actacactgg	cttttttagg	cttagagaca	gaaacttttag	180
cattggccca	gtagtggctt	ctagctctaa	atgtttgccc	cgccatccct	ttccacagta	240
tgtttcttcc	ctcctccctt	gtctctggct	gtctcgagca	gtctagaaga	gtgcatctcc	300
agcctatgaa	acagctgggt	ctttggccat	aagaagtaaa	gatttgaaga	cagaagggaag	360
aaactcagga	gtaagcttct	agcccccttc	agcttctaca	cccttcggcc	ctctctccat	420
tgctgcacc	ccaccccagc	caactcaactc	ctgcttggtt	ttcctttggc	catgggaagg	480
tttaccagta	gaatccttgc	taggttgatg	tggggccatac	attcctttta	taaaccattg	540
tgtacctgc						549

<210> 498
 <211> 412
 <212> DNA
 <213> Homo sapien

<400> 498						
cttgaagctg	ggaggtggag	gttgcaagtga	gcagagatca	caccactgta	ctccagcctg	60
ggcaagagaa	tgaaactctg	tctcaaaaac	aaaaataaaa	acaaaaaaaa	aactcttgct	120
attctggaaa	tgtccacaat	tcagtcttca	cctgcctcca	tcctcatgaa	ggcaccaggg	180
gagcgcggtg	ggctcacctg	atttcttggt	taggtctggt	ctgttccttt	tttatgcggg	240
gtctgtcggg	gggcactgct	ccaatgtgag	gggtccaggc	tccatcgtag	cctcttaacc	300
agctcagtgc	caggaagggt	ggactttgac	aaaaacccac	ctcaaactctg	cactcccaa	360
cctggagtgc	aacctgtggc	aagctcccta	ggctctctgg	gcctcagctt	cc	412

<210> 499
 <211> 447
 <212> DNA
 <213> Homo sapien

<400> 499						
acttttaaga	atatactttg	atttaatatg	tatgttagta	aaactccacg	tgttgtaacc	60
attattatgt	ttttgttttt	aaaatgggga	tgtaatacta	ataaccacta	cctataaaat	120
aaagcacaca	attgttccgg	cgattttaca	aatctttttt	tccagggtgta	aagtctacaa	180
aaattccaaa	aaattagaga	acactgaaaa	catattaaag	tttgacatcc	aactttatag	240
tattttocatg	ttaccctgaa	agataactta	aaaaatatgg	ccttcttaga	acaggccact	300
ctgctattat	aaaaaatttg	tgacagcaag	aaattgtatc	actgatatgt	ggaatttttg	360
taaatagttt	tctctccaaa	tcattagaaa	aatgttcaaa	aataaaaaca	aaataaaaata	420
tggtggtggt	ccctaaacta	ttttgaa				447

<210> 500
 <211> 527
 <212> DNA
 <213> Homo sapien

<400> 500						
gtttgcttct	tgcactctgat	taactagaat	atttctcttt	ccccctttta	atttgtgatg	60
tcacttgacc	ccatttatgt	gtaggagcac	tacaccattg	gtttccaata	ctgcacacat	120
aagatacata	cttggttgca	gaaagtatct	tcctccaggc	ttgtaatacc	cttcacatgg	180
aagattaatg	agggaaatct	ttatatcttg	tataaaaaca	aaagcaaatt	tatatactaa	240
aatcatttgt	ctaaaaatth	aagttgtttt	caaataaaaa	ttaaaatgca	tttctgatat	300
gcactgattg	tgttgccctc	agcttttttt	gctctctatg	agtgactact	taagtcactt	360
gttgagaggg	attatttact	aattatatac	ttctcattcc	tgtaactcca	ttccctttta	420
acagtgtgta	tatcaaatat	acttccatcc	attgaatggg	gtatttttaa	caacaacaaa	480
agtgatatac	taaaaaatgt	attgcttaag	gcttattgaa	tcatttt		527

<210> 501
 <211> 304
 <212> DNA
 <213> Homo sapien

<400> 501

gagggttgccg	accaaagaga	ccattgagca	ggagaagcgg	agtgaatttt	cctaagatcc	60
tggaggatgt	cctacccccg	tcctcttcga	gacccagtc	gtgatgtgga	ggaagagcca	120
cctgcaagat	ggacacgagc	cacaagctgc	actgtgaacc	tgggcactcc	gcgccgatgc	180
caccggcctg	tgggtctctg	aagggaaccc	cccccaatcg	gactgccaaa	ttctccggtt	240
tgccccggga	tattatagaa	aattatttgt	atgaataatg	aaaataaaac	acacctcgtg	300
gcaa						304

<210> 502

<211> 425

<212> DNA

<213> Homo sapien

<400> 502

actgattgtc	atcctgactt	tggcattggc	agctcttata	ttccgacgaa	tatatctggc	60
aaacgaatac	atatttgact	ttgagttata	atatggtttt	gtgacttatg	agctgtgact	120
caactgcttc	attaacatt	ctgcattggg	tataatctaa	gaattgttta	caaaaagatt	180
attttgtatt	taccttcat	tcotTTTTTT	gatccttgta	agtttagtat	aaatatatct	240
agacattcag	actgtgtcta	gcagttacgt	cctgcttaaa	gggactagaa	gtcaaagttc	300
cttgtctcac	tatttgatct	gotttgcagg	gaaataaact	gttttttctc	atgtttcatc	360
ttctttttat	gtaaatttgt	aatactttcc	tatattgccc	tttgaaattt	ttggataaaa	420
gatga						425

<210> 503

<211> 256

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(256)

<223> n = A,T,C or G

<400> 503

accagcagtg	tgtcagggtgc	tgcagagcgt	tcttggagaa	ggcccaactga	ggcagggttcg	60
tgccctgctg	cggccagcct	gactagaccc	caccctgagg	tcctgcattt	ctcagtcggt	120
gtgtaatcac	gttccagggc	ccaaagccca	gctctttgtt	cagttgactt	actgtttctt	180
accttaaaaa	gtaattgtag	atggaaatca	gttgtgtttg	gcangagaat	caataaaaat	240
ctttgattca	gacagc					256

<210> 504

<211> 255

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(255)

<223> n = A,T,C or G

<400> 504

actgttaatg	atgttaatga	ttttttttta	aactcatata	ttgggatttt	cacaaaaata	60
atgcttttga	aaaaaagaaa	aaaaaacgga	tatattgaga	atcaaagtag	aagttttagg	120
aatgcaaaat	aagtcatctt	gcatacaggg	agtggttaag	taaggnttca	tcacccattt	180
agcactgctt	ttctgaagac	ttcagttttg	ytaaggagat	ttaggttkta	ctgctttgac	240
tggtgggcct	ctasa					255

141

<210> 505
 <211> 485
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(485)
 <223> n = A,T,C or G

<400> 505
 agcttggtcc gagctckgat cccctagwaa cgccgccagt gtgctggaga attccccctt 60
 agcgtggtcn ttgcccagagg tacagaaaac ccaaaggcaa ccacatagca tatgtaaaat 120
 gtgcaaatca ctttaaaatg caagttattc tatagcattt gcaagataga atttcactgn 180
 aattagggaa tctagttcat cctaacttaa tagtcttttg catgtataga caatgcaatt 240
 ctacaaggca caactcagcg ttgatgctaa agtatgaaac acatcctcag attattttatt 300
 tgaaaatatt aaaatagcat cgtttattat tttttaatga gtcattgagct cattttctaaa 360
 gcttcataaa gcattacact gataacatat gtgtgggtcag gacaaaactgt tccctgaact 420
 taagaggtga aggacaagac cccatattat tatcctgtat taaaaaagga aatatacata 480
 tatgt 485

<210> 506
 <211> 230
 <212> DNA
 <213> Homo sapien

<400> 506
 acaactccaa aaggagacat tggagaagaa ccaagctggg totataagga attgcacatg 60
 agatggcaca cataatttatg ctgtctgaag gtcacgatca tgttaccata tcaagctgaa 120
 aatgtcacca ctatctggag atttcgacgt gttttcctct ctgaatctgt tatgaacacg 180
 ttggttggct ggattcagta ataaatatgt aaggcctttc tttttaaaaa 230

<210> 507
 <211> 179
 <212> DNA
 <213> Homo sapien

<400> 507
 acctacttct ccacaccgct gttgcttggg aaaaagggca tcgagaagaa cctggggcatc 60
 ggcaaactct cctcttttga ggagaagatg atctcggatg ccatccccga gctgaaggcc 120
 tccatcaaga agggggamta tccsgtgaac accctgaaaa gakccgctgt gacgggtgg 179

<210> 508
 <211> 321
 <212> DNA
 <213> Homo sapien

<400> 508
 acagagtttt atataaattt aaaccaattt ttaaaacaaa actgcggaca ccaccataaa 60
 aatggaatca aaagaaagtt aatttatgaa attaagaggt cagcagaata tactcagtga 120
 tggaagacac ttgggaaagt ctttttaata gaacaagaac gatcttaatt taagaatatt 180
 atcctggttt aacaacagtg ccctgtttac aacagattgt gccctatctc atctgcagcc 240
 gaggaataaa ggattctgat tagaaagagg gttgcctaca gattagtaag caattccttg 300
 gatcttatgc acagaacttg t 321

<210> 509
 <211> 176
 <212> DNA

142

<213> Homo sapien

<400> 509

acgtgggata	cgggtcatgg	gcagagctcc	tggcctcagt	gatgcctcct	gatctatcca	60
taggcctgga	agatcagcac	tgggatgacg	atgagcagaa	tggtcatgag	gatgcccasa	120
atcagggccc	acatgttcag	gcacttggcc	ggtggatgca	targcctggg	cccctg	176

<210> 510

<211> 298

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(298)

<223> n = A,T,C or G

<400> 510

accaacttta	tatcatatgt	ttatacaatt	taatttaaaa	attcatttta	aggaagacag	60
ataatttgaa	agacttttgt	ttttcttgac	ttaattcatg	aagtatcatt	ttttgactga	120
gtctccattt	acttcattct	taatgattat	tgtcatccct	ttaaatctgt	gcctttttct	180
tcttgagcga	agctgtttga	gtaaacctgt	tgaagagtgt	ttgtgtcttt	tgtgcttttt	240
tgttgnattt	aaaacaccaa	ctaaacctta	tagtcaagac	aaggctctat	gtttctgt	298

<210> 511

<211> 345

<212> DNA

<213> Homo sapien

<400> 511

acagattttt	gtatagctga	taagattctc	tgtagagaaa	atacttttaa	aaaatgcagg	60
ttgtagcttt	ttgatgggct	actcatacag	ttagatttta	cagcttctga	tgttgaatgt	120
tcctaaatat	ttaatgggtt	ttttaatttc	ttgtgtatgg	tagcacagca	aacttgtagg	180
aattagtatc	aatagtaaat	tttgggtttt	ttaggatgtt	gcatttcgtt	tttttaaaaa	240
aaattttgta	ataaaaattat	gtatattatt	tctattgtct	ttgtcttaat	atgctaagtt	300
aattttcact	ttaaaaaagc	catttgaaga	cctaaaaaaa	aaaaa		345

<210> 512

<211> 459

<212> DNA

<213> Homo sapien

<400> 512

acttatttca	acaattctta	gagatgctag	ctagtgttga	agctaaaaat	agctttattt	60
atgctgaatt	gtgatttttt	tatgccaaaa	tttttttagt	tctaatacatt	gatgatagct	120
tggaaataaa	taattatgcc	atggcatittg	acagttcatt	attcctataa	gaattaaatt	180
gagtttagag	agaatgggtg	tgttgagctg	attattaaca	gttactgaaa	tcaaatattt	240
atttgttaca	ttattccatt	tgtatttttag	gtttcctttt	acattccttt	tatatgcatt	300
ctgacattac	atatttttta	agactatgga	aataatttaa	agattttaagc	tctgggtggat	360
gattatctgc	taagtaagtc	tgaaaatgta	atattttgat	aataactgtaa	tatacctgtc	420
acacaaatgc	tttttctaag	ttttaacctt	gagtattgc			459

<210> 513

<211> 422

<212> DNA

<213> Homo sapien

<400> 513

143

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gccccgtagt gatgagcact gactgggttca ctggccacat tttagttctt cataataata      60
ggccacaaaa gggctctgtg gtttgccctcc atgtgcaactg gcccctcccc acccctaggg      120
ggcactcagt agctgctgag aaggcctgtc cagcaggctg ttggaacccc tccaataaat      180
acttagaggt agtgtatctg atgcttgttt tctgtggagaa aattgtattg gagaacttaa      240
aacatcacga atatttttaa taggatccgc agacacccaa aggagaagct tggctctttc      300
caggtatttc caacttgagt tcagcccaaa gcctttgaaa ggaatgcatt accacatgac      360
cacatgctga gaccccatgg ggtctaacac gggacctaag aaagtctctg cagccagata      420
gt

```

<210> 514
 <211> 326
 <212> DNA
 <213> Homo sapien

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<400> 514
accagtatag taatatctgt atactaacta gggctttgta ttgtcaataa ttttttaata      60
atitttttaaat gaggtattta ccactgaaga aatatgataa tataaaacca tcaaatttta      120
taattgagat gatactctgg aaaaacatgt catttcattt tcagaaaact cttaagctct      180
cttcagctctc tgtaatgttt ctgattgcat gtttcttcat gaaaagtatg ttgttggttt      240
gatagtaata ataataaatg taggctcagt tctttcccag gattttcatc aaaaagcttt      300
aagtgcctaa cctgtcttgt ctctgt

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<210> 515
 <211> 323
 <212> DNA
 <213> Homo sapien

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<400> 515
accagatgta gctaggaaaa cccaaacgtt ccttggatcc tgagacagct ggtaagcacc      60
caggccgggt agactgcaa agagcagccc tgcagccagg gacggcacgc tgccctgcttt      120
tacatagcca atgatccac cagaagcaac cagtgcctgc tagccaaagc caaaccaatg      180
caagggcact actgagccag tgtcctgcat ttttctcttc tctgtccaga caggagacta      240
ccccaggcct gcaccgggtc caogaaggcc cgggctgtct acaagggcgc gcaagccgca      300
ggaatgactg cgaggtgtcg ccg

```

<210> 516
 <211> 403
 <212> DNA
 <213> Homo sapien

```

<400> 516
accccgtttg ggttcatttc ctgcccaaga agctggatga ggcagtggct gaagcccacc      60
tgggcaagct gaatgtgaag ttgaccaagc taactgagaa gcaagcccag tacttctaaa      120
tactgagtga atacatcaca gattgcataa agtgcattat tgcaagttgt tgtcatccat      180
tcagctttct ctgtctgttg ttctggcaat ttcattattgt caaagattct gaaaacaatt      240
ctaaataaat cctgccacca gtgtttctca taagtgtggc catatgtttt cattatttca      300
aacattactg ttaaaccctt ggttcttaca tctaatttgc atctattgat gatacaggat      360
aactcaaaga gaattgggaa ccactctctc acccacaccc tgt

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<210> 517
 <211> 360
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(360)
 <223> n = A,T,C or G

<400> 517

acctgaacga agtcgcgggc aagcatggcg tgggccgtat tgacatcgtg gagaaccgct	60
tcattggaat gaagtccga ggtatctacg agaccccagc aggcaccatc ctttaccatg	120
ctcatttaga catcgaggcc ttcaccatgg accgggaagt gcacaaaatc maacaaggcc	180
tgggcttgaa atttgctgag ctggtgtata ccggcttctg gcacagccct gagtgtgaat	240
ttgtccgcca ctacatcgcc aagtcccagg agcgagtggg agggaaagtg catgtgtccg	300
tcctcagggg ccaggtgtac ctgmccgggc ggcncctaac ggcgaattmt gcagatatcc	360

<210> 518

<211> 255

<212> DNA

<213> Homo sapien

<400> 518

cataaatatt atactagcat ttaccatctc acttctagga atactagtat atcgctcaca	60
cctcatatcc tccctactat gcctagaagg aataatacta tcgctgttca ttatagctac	120
tctcataacc ctcaacaccc actccctctt agccaatatt gtgcctattg ccatactagt	180
ctttgcggcc tgcgaagcag cgggtggcct agccctacta gtctcaatct ccaacacata	240
tggcctagac tacgt	255

<210> 519

<211> 449

<212> DNA

<213> Homo sapien

<400> 519

accttctct caattttgct gtgaacctga aatggcttta aattaatact cttatTTTTT	60
atttaattta attacataaa ttaaacctta ccatgaccaa attgtgttag gacggcctgc	120
tatctacagc acagtgtgtc atttgcagat ttgtggttac ctataccacg ctaggtgttt	180
tgacatgttt agtatttctg ctttacagtg ctgaattcca tatttttagaa gctatgaaag	240
tccttttatg aaaaagttac tgattgcttc tcagttatta ggaaaacagt tgtttcacia	300
ttattatgta gatatgatgc ccaaatatca tttttagtat atcttgtcga tctttaagtt	360
gttactattg tgttattcat gtctttaaat cagataccaa atatttttta ggaaagaaaa	420
atgttattac tgtcattagg ttggctttt	449

<210> 520

<211> 92

<212> DNA

<213> Homo sapien

<400> 520

acccccatca cagcagtcaa acagcctgag aaagtggcag ctaccaggca ggagatcttc	60
caggagcagt yggcaryagg gccagagatc cg	92

<210> 521

<211> 123

<212> DNA

<213> Homo sapien

<400> 521

acagagggga caacaatgaa tcagaacaga tgctgagcca taggtctaaa taggatcctg	60
gaggctgect gctgtgctgg gaggtatagg ggtcctgggg gcaggccagg gcagttgaca	120
ggt	123

<210> 522

<211> 303

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(303)

<223> n = A,T,C or G

<400> 522

acaaaaaaaaat	gaatgttaca	aaaatcacgt	aaaaaaaaact	aggctcaagg	aagcagccgc	60
ccttgcaaga	gggtcaagg	cacctgagag	gctgagaaga	ggccaacctg	gccatgggcg	120
tggctgcatg	gacagctctt	ccctcctgcc	cttccccaga	tgcccttccc	tcctgccccg	180
aggggcacac	tccctctccc	caattacagg	tgtacaaaa	ctgccttgaa	taccaccgcc	240
aaggcactgc	cagagatgaa	atgggccctg	agcagangcc	tcangctctc	cctcccccg	300
agc						303

<210> 523

<211> 424

<212> DNA

<213> Homo sapien

<400> 523

acagtgcattg	gtgctgtcac	ttggaaagcc	tttcaatggt	gtcttcagat	tgttgatg	60
aatatgaaac	atgcagaccc	tcctttataa	agaaaaagac	cttaaaactt	gaatatgaga	120
taattttaca	ttttaaaagt	ttatttgatt	ttcatattat	tcactttcaa	agccctttca	180
aatagaaaag	gtatgaactt	ttggggggat	aatattatgta	tcgtaaaactt	attagaacaa	240
aatattcctg	atgtataatg	agttgtttta	tttataacaac	tttttcaatg	gtagtttgca	300
ctattcttta	ttatgtctaca	ggtttattta	ttatgaaaca	aaggaatatg	tattttatgt	360
attttaccat	gcataggtta	actctttgcc	acagatttat	tggctcttgat	acacctaaaa	420
taaa						424

<210> 524

<211> 172

<212> DNA

<213> Homo sapien

<400> 524

acaatttcat	tgcagacaca	aagacttaag	agtttcaaag	aattttttta	aataaaaaaa	60
aaatttgcac	ttattcctca	caaaatcttc	acttttgga	ctatcccaat	tgaagctaca	120
cactgaattt	attaatacag	cattaagttt	ctttgtgtaa	aaaaatcttt	gt	172

<210> 525

<211> 256

<212> DNA

<213> Homo sapien

<400> 525

actccttccc	agttttttct	ttatactgag	ccttcaggga	cagtaagcat	tctacagett	60
cattttattt	agccttaggg	gatttttcag	cttttagctt	acgaaccacc	tcctcttggt	120
cagcaacttc	atcatacaga	gattttactt	ccagaatact	tgctgaggaa	ttagaagaaa	180
tattctgtcc	tatttcagca	ggagggtttc	cagggtttata	ttcctggcca	gttttctcct	240
tatattcaag	ctttca					256

<210> 526

<211> 479

<212> DNA

<213> Homo sapien

<400> 526

actggagatg	tatttgataa	ccaaggtttt	aggtaaattt	tcaccagtat	tagttctatt	60
tgcaaaactga	aaaatgttgt	aggcttaata	taaaataacc	acattagtga	acattatatac	120
tcttagaaga	aaggccatat	tttgctcctg	cttctgtaaa	aatattattt	gtttgaagg	180
gaaataatgg	tagtgtgacc	tttcaacttaa	ttcctactcc	cttaatgtga	gagagacaaa	240
atgagctgaa	gaaggaaaat	tctggagtta	cactccacaa	ccttgaacat	actgacggac	300
atctctgttt	tgacaacgat	ttctccatgc	cacctatgct	ctaatagcctt	gtggatcacg	360
gacaaccctc	tttgcacaag	ctacagcatc	agcgatgtta	tcttgcagca	aagcactgca	420
ggataaatga	caggcattaa	ctgctcctgg	ggttttgcca	tcattacacc	agtagcggc	479

<210> 527

<211> 220

<212> DNA

<213> Homo sapien

<400> 527

accaaattga	agggttttaga	ggccctcaaa	tgggcatcac	tcataaaggc	aattttcatg	60
gtttaatatata	gaaattactc	taatgtgaga	acacaacatg	ggaactattc	aaaatacacc	120
tttctatgca	aaattgagtt	tgyatctatt	ttagcatttt	aaatgagcac	tctgcaactg	180
agaccaataa	tcaatcatct	cttgagggtt	tctactatgt			220

<210> 528

<211> 373

<212> DNA

<213> Homo sapien

<400> 528

acamcatcga	tgaaattcag	acatacaatg	taaagttgaa	ataatcccaa	attattttac	60
attatttatg	tatactttac	aaataacaca	aatatggaaa	tgttttcttg	gaaagctgtt	120
ggaactgtaa	gcaactgcaac	gtatgaaaga	aacatattta	gcaataaaaa	atttaataat	180
atcctacaac	tgaattagtt	gcatatttat	accattcaaa	atcttgattt	taacctcatt	240
cactcctttg	aaaaatacat	tcctcttttg	ttctttttaa	tgcaaaatta	gtggcagttg	300
cagcaaaaac	gccgaaattc	tataagaaaa	aaactgattt	accccaaaca	tatcattcag	360
cacaaactgc	ggt					373

<210> 529

<211> 344

<212> DNA

<213> Homo sapien

<400> 529

acattttctaa	gtcaaacact	tgtgactttt	gctttaattc	catgaatgtt	cctgcctcct	60
tgatattttgt	atattattctt	tttttctcta	gagtagaggt	ataatttgtt	gatatttcag	120
aaatacagat	aaatgattca	aaaagtcaca	gttaaggaga	atcatgtttc	tttgatcatg	180
aataactgat	tagtaagtct	tgcctatatt	ttcctgatag	catatgacaa	atgtttctaa	240
ggtaacaaga	tgagaacaga	taaagattgt	gtgggtgttt	ggatttggag	agaaatattt	300
taattttttaa	atgcagttac	aaattataat	gtattcatat	ttgt		344

<210> 530

<211> 354

<212> DNA

<213> Homo sapien

<400> 530

accattgctc	tttcctagct	aaccctagat	atggcagctc	tttaatgtac	ctgagatcct	60
ggtgcacaac	atagtgatct	tcatgcgaac	ttcagtgaag	atttcataca	ttggcctcat	120
gaccagagc	tccttgagga	cacatcacta	tgtggattgt	ggaggaaatt	ccacagctat	180
ttaacaactg	ctattggttc	ttccacacag	cgctgtaga	agagagcaca	gcatatgttc	240
ccaaggcctg	agttctggac	ctacccccac	gtggtgtaag	cagaggagga	attggttcac	300

ttaactccca gcaaacatcc tcctgccact taggaggaaa cacctcccta tggt

354

<210> 531
 <211> 418
 <212> DNA
 <213> Homo sapien

<400> 531
 acacatccca ttttcaaatt taaaatcata ttgtcagttg tccaaagcag cttgaattta 60
 aagtttgtgc tataaaattg tgcaaatatg ttaaggattg agaccacca atgcactact 120
 gtaatatattc gtttcctaaa tttcttccac ctacagataa tagacaacaa gtctgagaaa 180
 ctaaggctaa ccaaacttag atataaatcc taccaataaa atttttcagt ttttaagtttt 240
 acagtttgat ttaaaaacaa aacagaaaca aatttcaaaa taaatcacat cttctcttaa 300
 aacttggcaa acccttccct aactgtccaa gtatgagcat aactgccac tggctttaga 360
 tactccaatt aaatgcacta ctctttcact ggtctgaatg aagtatggtg aaacaagt 418

<210> 532
 <211> 583
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(583)
 <223> n = A,T,C or G

<400> 532
 cgtcccaaca attatattac taccactgac atgacottcc aaaaaacaca taatttgaat 60
 caacacaacc acccacagcc taattattag catcatccct ctactatattt ttaaccaaatt 120
 caacaacaac ctatttagct gttccccaac cttttcctcc gacccctaa caacccccct 180
 cctaatacta actacctgac tcctaccct cacaatcatg gcaagccaac gccacttatc 240
 cagtgaacca ctatcacgaa aaaaactcta cctctctata ctaatctccc taaaaatctc 300
 cttaattata acattcacag ccacagaact aatcatattt tatatcttct tcgaaaccac 360
 acttatcccc accttggtta tcatcaccgg atgaggcaac cagccagaac gcctgaacgc 420
 aggacatac ttcctattct acaccctagt aggtccctt cccctacca tcgcgactga 480
 tttcactcac aacaccnnta ggctcactaa acattctact actcactctc actgccccag 540
 aactatcaaa cttcctggcc aacaacttat atgactagct tac 583

<210> 533
 <211> 529
 <212> DNA
 <213> Homo sapien

<400> 533
 gaggtactta ataaccaagt ctcggaacac tgagccatca cctgcaatgt ttcctagagc 60
 ccagacagct tgttctactga tgtgagcatg gggagatgcc aacagagaaa tgaatgctgg 120
 gatggcacct ccatctacca cagccttggt ttgttctgat gtcccagaag caatgttagt 180
 gagtgcccaa gcagattcaa actgaatggg actacaatca gttctgcca agaaggacac 240
 aaatttcgga atcaaaccag cccggattat gttgtctatg gggggctgtt tttctctgga 300
 aagtagtttc ctggcagctt gagtagcttg gagctgattt tccacattgc tgctatttat 360
 gcctttgaca atgtcatcaa cagaccaatt tacagtgcc tggttggtgc ggttttctg 420
 cagcggagaa gtagcatcat caggaaatga gcttacattt ctctcttca gcatctggtc 480
 atccttctta gtttctctca gctccacatt gaccttatt ctgcgacgc 529

<210> 534
 <211> 297
 <212> DNA
 <213> Homo sapien

<400> 534

actcattaat	attatTTTTgt	tttgagaaag	ccagaaatga	ttctaagaaa	taaacaataa	60
taataaaaaga	tgtaattaat	atactgtatc	cctTTTtaagc	caaagcacac	TTTTtacctc	120
aagactgttc	tgactTTTtac	attcttaatt	tcctTTgtcc	aaaataggac	cccattTTta	180
atagagttca	TTTgaattga	gttcataatc	taaagtcaact	TTTccccaca	agatgtTTtc	240
atttcagtat	ataaactgct	aagcggcaaa	tgactaagtc	agttataaag	aatttTgt	297

<210> 535

<211> 373

<212> DNA

<213> Homo sapien

<400> 535

actttccagg	gcacagcctg	gacgaatgat	gccaaacttt	ccgggcacag	acaaatcaac	60
cacagttgag	ccaaggcgac	actcggggct	ctggccatcc	ccaatttTgtc	ccccatcaat	120
aaccaaggac	aactgaggcc	agagatcctg	gaactcctcg	acattcagag	aactggcctg	180
ggagctgagg	ttggcactag	tgagagcaag	cggaccctca	aacatctgag	ccaagtcttg	240
cataaaagca	tgatcaggaa	tccgaatgcc	tacaagaggc	gtaaaagggT	ttaggtcctt	300
gttgagctcc	tccgagcggt	ccatcaccag	ggTcaactggT	cctggcagta	ggtctttcag	360
gagcccctca	ggt					373

<210> 536

<211> 254

<212> DNA

<213> Homo sapien

<400> 536

acatgctcca	ttaaattaaa	tgTcatccaa	catttatcaa	atattgtctt	agttacagct	60
tgatacctat	ctaaattcat	attcgagcaa	aactaggccc	cgaaagtgcg	tttTgtggctc	120
tgcacctcca	gaagtgagtt	caaaaaacct	gcagctcatc	agaactgcaa	caataactct	180
taatatTTtc	ttTtgacaaa	aaaaaaaaatc	aagtttactt	caatatattt	tcaaatattt	240
actggaagta	atgt					254

<210> 537

<211> 449

<212> DNA

<213> Homo sapien

<400> 537

acagactTgt	TTTTgagtgt	tgagtagcag	ggacaaaata	agggaatgtt	atTTTTtaag	60
aaaattcatt	TtcattTgtt	TctccttccT	ttTctgtgaa	agtccTcata	ctgagaaatt	120
Tgtatatttt	atattaaatc	acttactatt	gattTTTgtt	gtgattttca	aaggTggatt	180
cccacagata	aaatcttggc	tattgcccaa	aacatagtaa	agggTcacgt	gtgactTTTT	240
ataataggaa	gaaaattctg	cctTTgtgag	Tgcacatgtc	cacatttcat	ccctccttcc	300
ctcaaaaccc	tagagagggg	cattaaagaa	ttgtTgatgt	atatgcaatg	TctgtTtaagc	360
atgcactatg	TatttTcatcc	Tcatttattg	ggTctgggac	TgaagTTTTt	agccagcatg	420
gacctaacct	actTTTTtggg	ataaaattc				449

<210> 538

<211> 328

<212> DNA

<213> Homo sapien

<400> 538

actcagcgcc	agcatcgccc	cacttgattt	Tggagggatc	Tcgctcctgg	aagatggTga	60
Tgggatttcc	attgatgaca	agcttcccgt	Tctcagcctt	gacggTgcca	TggaattTgc	120
catgggtTga	atcatattgg	aacatgtaaa	ccatgtagtt	gaggtcaatg	aaggggtcat	180

tgatggcaac	aatatccact	ttaccagagt	taaaagcagc	cctggtgacc	aggcgcccaa	240
tacgacaaaa	tccgttgact	ccgaccttca	ccttccccat	ggtgtctgag	cgatgtggct	300
cggtggcgga	cgcaaaagaa	gatgcggc				328

<210> 539
 <211> 506
 <212> DNA
 <213> Homo sapien

<400> 539						
tcgaggtact	ttggcctctc	tgggatagaa	gttattcagc	aggcacacaa	cagaggcagt	60
tccagatttc	aactgctcat	cagatggcgg	gaagatgaag	acagatgggtg	cagccacagt	120
tcttttgatg	tccaccttgg	tcccctggcc	gaacgtccag	cggagagact	gttggcagta	180
ataaatggca	aaatcatcag	gctgcaggct	gctgatgggtg	agagtgaatt	ctgtcccaga	240
tccactgccg	ctgaaccttg	atgggacccc	actatgtaaa	gtagacgcct	tatagatcag	300
gagattaggg	gctttccctg	gcttctgctg	ataccaggcc	aaccaattat	taatattctg	360
actggcccg	caagtgatgg	tgactctgtc	tcctacagat	gcagacaggg	tggaaggaga	420
ttgggtcatc	tggatgtcac	at ttggcacc	tgggagccag	agcaagcagg	agccccagga	480
gctgagcggg	gacctcatg	tccatg				506

<210> 540
 <211> 519
 <212> DNA
 <213> Homo sapien

<400> 540						
tcgaggtacc	tttcttgttt	tcctagaatt	cctaaggagg	aacaacaaca	aaatcgggggt	60
ttgttcagca	attgcaccac	atctctaaaa	attaaaacat	tattcagtaa	gtgaagggtt	120
ctgataaaca	agtggatcaa	actgaatatt	tccaattaag	aaagttcaca	ataatacagt	180
agtgtattat	taccaatagg	aaggccta	agtgcactat	tatttttttaa	ggcaagaaaa	240
aagaaaacaa	gtgcaagcta	tgccaagctt	tgggtgaatgc	tgctccttggc	attgcaagta	300
taaagtttgt	ttaaaaagaa	aagggaaaaa	ttaactaat	gcttcaacaa	ccacagaata	360
aggtttagga	ctgcaaagaa	agaggaaaaa	aagaaacatt	attcctctcc	aattatactg	420
ccaagcattc	acaagtgagc	tagggatcat	aaggttaatt	atacatttaa	taaggtgtca	480
gggagataac	tgctcatttc	tttataaaaa	ttaaaatgt			519

<210> 541
 <211> 431
 <212> DNA
 <213> Homo sapien

<400> 541						
acttgaggct	tttttgtttt	aattgagaaa	agactttgca	at tttttttt	aggatgagcc	60
tctcctagac	ttgacctaga	atattacata	ttcctccagt	aagtaatact	gaagagcaaa	120
agagaggcag	gattggggtc	acagccgctt	cttcagcatg	gaccaagtgg	gccttggggga	180
ttgcagcggt	ctcgaagtgg	ctgtaggact	cgaatttaca	gaaagccaca	gaggtgcaac	240
ttgaggctct	gctagcaagc	caccagttag	gctattgggt	aaccaccttt	ctatacagga	300
gatttgaatc	tactttgtca	tttatccacc	acagtgacaa	aggaaaagtg	gtgccgttat	360
gcaatccatt	taactcataa	acatattact	ctgagtaact	ggccagccat	tcacgggatc	420
cttcattggg	t					431

<210> 542
 <211> 502
 <212> DNA
 <213> Homo sapien

<400> 542						
acaaaaaagg	aaataagaaa	gtagtgacag	cctatccata	caaaaatcaa	aaagacacaa	60

150

```

aggaagatag aatgagaaac agacctacaa gaatcattaa acaataaaat aacagtaatc 120
tttgtcttca gaaaataaat attttaaaaa tagacttgcc aatcaatata catacattga 180
atagagggat tatataaaat tttatatacc aagatccaac ttgctctctc tcaagagtca 240
cttgagatct agtagtgaaa tcagcctgaa agtggcaagt ggaagaagac attttaggca 300
aacatcaacc aaacgagagc agaagagatc aaaattgtat tatacaaaat acatcgtaag 360
tcaacaactc tcttatttta taaaatatac tttatgtcaa aattcacaag agaaaaaagg 420
tcattaaaca ataataaaga tatcatttat tgaaaatgta tgacaaatat gtgcatacat 480
atatttatat gtttgtgtct gt 502

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<210> 543
<211> 452
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(452)
<223> n = A,T,C or G

```

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<400> 543
actacaaggc cagtaaaaca atgatacaact ggaaaaaaaa aaatgcagca ataaacattt 60
gttaaaaaga ctgatagaat aaataaaact acaaaaaaaaa aaaaatcata caaacccatt 120
ctgaaacccc aagaagtcct ggaatacaga aatgccctcc tccttcacta tttcacagga 180
agcactgcag gctatttgct taatattgtc ctgggattac attcctaaaat tagtaactgg 240
ttacagctcg gttgtagtgc acaattaaaa tcacactaac ttcactctgaa gtgtcattct 300
acagttttat ttacacaacc agtgaagggc atgttctaga ataccagctt taatcctttt 360
caaacattaa tataagaagc caaattgtaa tgatacagca aantgaggcc actggtatta 420
atacaggtag caaagggtcca catccagggt gt 452

```

```

<210> 544
<211> 472
<212> DNA
<213> Homo sapien

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<400> 544
caatcattta taatagaaac accttgacca caagcccttg attgaacatt ttataatatt 60
tcactacttt attaaaacaa ataatttccc ttgggttgga ggggaggtga tttcataaat 120
taattagaaa gccatcttta gcatattgct tatgtctgga tccatgtttc tgaggaaaaa 180
gacattctca ggtgatgtat ttttttcatg cattagtatg cttttttaaa aaataatgca 240
tgtttcttta ataattaatt ttcactcttc ataagatgcc atgtgaagaa gttgtggaaa 300
tgtagaataa aaagctaaag ctgccaaatt tctgttgaac tcttaaaaac agctcatgtt 360
tgtttgtcct ctcggttgtt ggcctagcct atttgtcaat taatgaagct gcagggttct 420
tgtatagcta aagcggttcaa tgcatttcac gtgctgtggt ggatgtgggt gc 472

```

```

<210> 545
<211> 281
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(281)
<223> n = A,T,C or G

```

```

<400> 545
acttaagcat ttccactttt ggaagaaaag tgtattagta ttttatattg catttcattt 60
aaaaggacag tttttttttt ttttgtaaatt ccattcattg aaatggtttc taaactgtat 120
aatgtaattt ggagcctatt tagtaatatg aattaaatgt cctatgtagt gctacaattn 180

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tygaattaga aagtgatcaa atgtmasaaa aaaattyaaa aattcagccc agaaaacaaa 240
ataggggtatt aaattagttt aatgtaaaag gaattwataa g 281

<210> 546
<211> 423
<212> DNA
<213> Homo sapien

<400> 546
tcgagggtact gagacagaag attgtgtcta cataagcaca agttgtaaca tttcacaact 60
tctaaaagga atgtcaacaa ttacaacgat catgcatacc atgggtcgata atcacatttt 120
agaagcattt tcaaccattt ctaaagaaat gcttataaca ttgttatata tagaactact 180
ttcaataaac tgcaaaacat tgatcgactt ttccagtatg agctacagtg tcaacacaaa 240
agggaggcat aaatgtttta tttatgaaat cagaatggaa tatttactgt aaagaaaaat 300
taaaaagctt tcaaataaag gccattatcg aaccaacgtg aagagcaca ctcgaacttt 360
tgagttcatt catcttttaa agctgtcctc tcaataactt cagttctaag cactgaattc 420
agt 423

<210> 547
<211> 399
<212> DNA
<213> Homo sapien

<400> 547
gagggtctttt agcagggtctc aaaagttttc ttctaataara ywtcttggtg ttctatcatt 60
cgtaggtggtt gaattttacca aactttttct atttcaatta ttacattttt actttgttca 120
agtaaatattg tatcatatta aatgaacatt gcattgtgaa aataccctgc ttagtcatgg 180
tatgtaatca tccttatacc tttttgtatt ctttttttaa atatttctga gaatttctgt 240
gtctaaattt aaataggatg ttgttttgta atcatcttgt gattcttttg tctcctttgg 300
gtattattgg ccaatagatg aattaagaaa tgttacctct tctactgctt gaagtttttg 360
tgagaaattg atgtttttca ttaagtgttg atgaaatgt 399

<210> 548
<211> 246
<212> DNA
<213> Homo sapien

<400> 548
aaatgcatta taaatgtttt taattgtgtt ctgttttttg cagtctttta gtgccatgcc 60
aattgttctt atattctata gaagttcgct caaaatactc aacaggggaa taggcagcgg 120
acagtcagaa tgggttgaat tttggcttct taagaaaaac tttattttgc ataagcatgt 180
ggtcagatca ttttgtgcat atgcagcctg gattggatgt taagtaaatg cttgttcagt 240
gccggt 246

<210> 549
<211> 413
<212> DNA
<213> Homo sapien

<400> 549
acaaactggt attttatact gttccaatgc cagtaatcaa tttattttct tcattaaaaat 60
aatatacaca gaatgtattg ttagttcgat tccttcaaat tttatacata tttactttct 120
gttaaagaga aaaggataaa atggtataaa aaaagataaa gctattaatt aagcacgaga 180
gagaagataa atggatattt tccctgtgtg aggctaagac agaagcaaat ctcgttaaga 240
aaaatgccac ccacacaaca ggaaatttat ccaaaacaaa acaaaagcag ttatagaacc 300
ccttctctac catcagaagt aatttcacag caataaactt attggttaca acagacatac 360
ttgaacagtt aaggatggga agaaaggctt aagatatcac caaattaaac cgt 413

152

<210> 550
 <211> 215
 <212> DNA
 <213> Homo sapien

<400> 550
 acataagggtt caaagtttcc ttctcttttt ttattttattt tatattttgc aatgtttttt 60
 ttccataata ttttaagtttt tcgatgttta gatatttttc ttcggtgaag cacaagtwtc 120
 ttttcatggy ccctgakcaa ttttaaacag ttggaacacc ggtggcactg ataactgcty 180
 tctgggcagc ctcttttagct tggggggctb gtagg 215

<210> 551
 <211> 175
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(175)
 <223> n = A,T,C or G

<400> 551
 ggcggaggag cggtaactac cccggctgcg cacagctcgg cgctccttcc cgctccctca 60
 cacaccggcc tcagcccga ccggcagtas aagatggtga aagaaacaac ttactacgat 120
 gttttggggg tyaaacccaa tgctactcat gaanaattga aaaaygctta tmmga 175

<210> 552
 <211> 298
 <212> DNA
 <213> Homo sapien

<400> 552
 acagtgtata ctatccccac caaaggaaaa aaacattaag agcaaaacaa ggggtggggg 60
 gtgggaatat tgctaaagaa aattctaata agagttatct ataattatag cttttattta 120
 ttatatcttc attcaatcat ttattcacaa ttagtctaata tgcattcttg atgaataact 180
 gacttcagca aaggagtcaa tccactaagc aaagttcatt tatttttcat gatgttcttc 240
 tttcgatctt gagtctttac tctcctggat tcccaagaga actgcattag cctctagt 298

<210> 553
 <211> 437
 <212> DNA
 <213> Homo sapien

<400> 553
 yacaatggct taagcaaata gcttttagttt tttttctatt taagatttag gacagactac 60
 tcgtctaaaa ttactatttt acagagaagg tcctaggga caggataact tatttaggtt 120
 tagctctcat aatacaatat ccataatggc tttagaagaa tgtaaataaa taacattggt 180
 aaacagcgta tactgatatt ttctgacaaa ctcatctatc taacatcatg ctgagcaatc 240
 aagaggattc ctctatatat tttaaatttt aattttattct atttcctgat tcacaaactc 300
 ttgtccatg ttaaagcagt tatcaccaat agaacctatg agaaccagt cccatggaaa 360
 cctaacagct tgttttttta atcccctatt aaaactcggg tgaacttgat atatgcatgg 420
 ttgaaatatg cgtgggt 437

<210> 554
 <211> 575
 <212> DNA
 <213> Homo sapien

<400> 554
 ycgagggtact tttgacaaca tttatctgca tgtccagatc agcaatgagt cggcaattga 60
 cttctacagg aagtttggct ttgagattat tgagacaaag aagaactact ataagaggat 120
 agagcccgcga gatgctcatg tgctgcagaa, aaacctcaaa gttccttctg gtcagaatgc 180
 agatgtgcaa aagacagaca actgaacaaa ttacaaatga actttcttgc acttgcttgt 240
 cgccaaataa aagagaggcc cattgattcc tccccaccc caacactttt cttttaaaagc 300
 ttttctccct ccttgcttctt gtttttcttt ctccctttcc ttttctctga gagttttaat 360
 actttcaagg actttaaaaa aataatcatg tttgaattgt tttctcttat tttgtgagg 420
 tggtttgaag gaaggacaag gtagatctgt ttagttttgc agttgaagtt agatggctct 480
 aaacatttaa ttgtcaaata atttcaaatt taatgtcctg ctttcacatt gaagggcaga 540
 gcctacaaaa cattgtatat ttcaaaagac aaaaa 575

<210> 555
 <211> 226
 <212> DNA
 <213> Homo sapien

<400> 555
 accgaacat gaccaccct ggcaagagcc ttcattgcacc tagcaagtag tcacagcatg 60
 catgtgccta gaattgttac gtggtcaaat tatattattg tgtattccca ccaacagtat 120
 gagaaggctc acttctccat acctccacaa ctctgggcat ctaaaacttt taaaatcctg 180
 gaatcatagg caaaaaaaaa aaaattcacc catattttcc tctagt 226

<210> 556
 <211> 298
 <212> DNA
 <213> Homo sapien

<400> 556
 acttcatata agtggaaatca tatagtattt gtccttttct gtctggctta tttcacatat 60
 aatgtcttcc aggttcatca tattgttagca catgtcagaa tttcattcct ttttaaggct 120
 gaataatatt ccattatgtg tataccacat tttgtttatc cattcatcca tcaatagaca 180
 tttgggtatt tccaggacaa tatattctta atttaatccc acattttaag acttacaggt 240
 aatttaaatt caattcaact tactgagtat ttactaaggg taactcacta tgggaagt 298

<210> 557
 <211> 166
 <212> DNA
 <213> Homo sapien

<400> 557
 actaatggtc tacatccgat tcaaaaccac atagttcatt gatcacagat gcatgggtatt 60
 agtcacgaaa gtttcagaac acattgtgtt gatittgaaa ggtcatttgc atcttctatg 120
 atttcaactt tatctccatt taacttgctt gtaaagtatg tatgat 166

<210> 558
 <211> 461
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(461)
 <223> n = A,T,C or G

<400> 558
 actccctgtt ttgagaaact ttcttgaaga acaccatagc atgctgggtg tagttgggtg 60
 tcaccactcg gacgaggtaa ctcggttaatc cagggttaact cttaatgtta cccagcgtga 120

actogccggg	ctggcaacct	ggaacaaaag	tcctgatcca	gtagtacac	ttctttttcc	180
taaacaggac	ggaggtgaca	ttgtagctct	tgtcttcttt	cagctcatag	atgggtggcat	240
acatcttttg	cgggtctttg	tcttctctga	gaattgcatt	ccctgccagg	cctaccacat	300
accacttccc	ctggaattgg	ttgtcctgga	agttctgctg	cagagggacc	ttgctcagag	360
gtggggctgg	gatcaggctc	gaggtggagt	cctgggcctg	ggcatgcaga	gcccccaaca	420
gggctaggcc	cagccacagg	agacctangg	gcattgattc	a		461

<210> 559

<211> 193

<212> DNA

<213> Homo sapien

<400> 559

accagacaga	atcaggaaaa	aaaaattgaa	aataagcata	acactataaa	gaaaacttgg	60
aaaagtga	caacttctaa	taaaaaatat	acacctggcc	tggcacccat	tacatatata	120
cataatacat	gttataaaca	tatatacagt	aaatgttttg	gtagcaatac	agaccatgca	180
ttggtctttg	tgt					193

<210> 560

<211> 125

<212> DNA

<213> Homo sapien

<400> 560

acacaattat	tctcactctc	cacagaaagg	ctgcttaact	tctcatcttg	wggwgggaag	60
cactaaaatc	ctgattttta	cagaatagta	gkaaaaatgc	ctcagtgatt	taagttgaaa	120
gcagt						125

<210> 561

<211> 325

<212> DNA

<213> Homo sapien

<400> 561

cogaggtacc	acggcctcag	agtcacagct	ttgtgacatt	agggggcaat	ctccagcttt	60
acgtttttaga	agacagtttg	ttttttgatg	tatattttta	atatccccag	attaaagaaa	120
actcagggca	agtaacacac	taaaagggcc	tttacaattt	ttttcttgct	gttattttga	180
gatgcatctg	ttgcaaaata	tgtcaatgtt	agaaatcaag	ctccttcata	tagggataga	240
tcatttgaaa	tagattttctc	tcaagaataa	tccaattatt	acttttttagt	gtttgcataa	300
attcactcca	gaagtcaccc	acagt				325

<210> 562

<211> 303

<212> DNA

<213> Homo sapien

<400> 562

accagatgga	aatgatattt	gcttcactcc	atthttgaatt	tctgcctgaa	ttagctcttg	60
tttcagttct	tcaattttctt	tcttcagttt	agcattttca	actcgaagtt	tcttctcttc	120
cctcaaagtt	gcctgcaaaa	ttgctttctc	cttaagtaga	gaaacttgct	gcttaagata	180
ttcaatgatt	tgatctgcct	ctgcaccctt	ctgctccagt	ctcttcagaa	cagcatcatt	240
atthtgcatt	tttgccaaga	gacggcagaa	aatcatgaag	cggaggacca	cgggttccga	300
gac						303

<210> 563

<211> 279

<212> DNA

<213> Homo sapien

<400> 563
 tcgaggtaca cagtcattga agactctccg gaattcagat ttgaaacccat atattatctt 60
 cattgcaccc ccttcacaag aaagacttcg ggcattattg gccaaagaag gcaagaatcc 120
 aaagcctgaa gagttgagag aaatcattga gaagacaaga gagatggagc agaacaatgg 180
 ccactacttt gatacggcaa ttgtgaattc cgaatcttgat aaagcctatc aggaattgct 240
 taggttaatt aacaaacttg atactgaacc tcagtgggt 279

<210> 564
 <211> 427
 <212> DNA
 <213> Homo sapien

<400> 564
 ccgaggtact gtgtagtggt atcagtggtt aaaatggaag atcattatga agaaacaatt 60
 tgtcatttgg gtatatctgt ttctatagga caaggatttg tgtctaaata ttccttactt 120
 gtatctcaga ggactatctg ttaaataatt gatcttaatg ccagcataag aaatcaaggg 180
 aactatcttct cagacatttc tttctctaaa ttaagtaggg tttcagggtc caagtttaca 240
 ttgagagaaac tatgttacct gggagagaat gtaaattttt ctaattccca aacaaaacca 300
 ctaatttcta ggaaacattt attgtttata tgcagatcct agagacttct atttcagtgc 360
 ggatcaacaa cttcaaaaat atacagcctc ctatttattt acaataatat ttacatacaa 420
 atgaagt 427

<210> 565
 <211> 214
 <212> DNA
 <213> Homo sapien

<400> 565
 tcgaggtact gggctcttttc cagccaggcc tgcaacggtg accttaatcc cagctcgcct 60
 catgacatct acagggatga ccgtctccat ttcctctgct cctttagcca ggatgaccag 120
 agctcttttg gaagccattt ttatgttata tgtttacaag cccacacca ggctgaaaat 180
 gaacgcacgc cagcacgcac gcgcgccgtc cggc 214

<210> 566
 <211> 382
 <212> DNA
 <213> Homo sapien

<400> 566
 ccgaggtact ttttagttttt tcacataact ctctaaaggc cttttcaaaa agtctctttc 60
 actggcatca tctactagaa caatttcttc tatcatgtgt cttgggtgagc gattaatgac 120
 actatggaca gttcgcagaa gtgtgctcca agcctcattg tggaaaacaa tcaccacact 180
 tgttgtagga agattatctg gatacacctt tgttttacac ctttctaacc taacatctgg 240
 taaagatctg ttgagtgcaa tcatctcact tgccattaaa ttgaactgat tgattttaaa 300
 catctctttc atcttttctt gatcctcttt aggaatgacg actgggtttcc ccatttctcc 360
 aggaccttca tgaggctttt gt 382

<210> 567
 <211> 271
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(271)
 <223> n = A,T,C or G

<400> 567
 cgaggtacaa ttacccacca ctggaggtga ctcagagagg acccccagag ggtgtctcca 60
 tcttcctat ttattttcag cccttgaggg cttcattgta gatcaaagcc aaggcccca 120
 ggaaggtgac atactcctgg aagttcacct cctggctctt gttccggncc aagtcttcca 180
 tcagccttgc aatttcagca tctgcagct togagccaat ggtgagctcc ttctggatca 240
 gctccttcag ctcttcttg ctcagggtg g 271

<210> 568
 <211> 340
 <212> DNA
 <213> Homo sapien
 <220>
 <221> misc_feature
 <222> (1)...(340)
 <223> n = A,T,C or G

<400> 568
 cgaggtgcag tgtatattcc tttgttgtga atccaaatct ttttcatagg taatgacaga 60
 tgccttaatg tgaagcttat ttataatagc aataaaccta actggatttg gatgaagaag 120
 tcttaatact gacatactgg atttttaatg cactggtttg ttatttggtg ttctatctct 180
 ttttcaggc ctccaggttg cacatttatt tattatgttc aatactttgg ttcttagttc 240
 ttaaagaatc aagaagttgt gtaatctttt aaaaatatta tcttgcagat aaagaaaaa 300
 attaagagtg tgtttacaac tgttttctct tttttacagt 340

<210> 569
 <211> 156
 <212> DNA
 <213> Homo sapien

<400> 569
 gccaggtaaa ccaagacttg gtctcagtga agaaattcca gaggtcaccg gcaaagaagt 60
 tccctttctca tcatcttcat ctcagctatt aaagatatat acagttgtac agtttgctct 120
 gatgttggca ttttatgaag agacctttgc agatac 156

<210> 570
 <211> 216
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(216)
 <223> n = A,T,C or G

<400> 570
 acagtactca gtatatctga gataaactct ataatgtttt ggataaaaaat aacattccaa 60
 tcactattgt atatatgtgc atgtatTTTT taaattaaag atgtctagtt gctttttata 120
 agaccaagaa ggagaaaatc cgacaacctg gaaagaattt tggtttcact gcttgnatga 180
 tggttcccat tcatacccta taaatctcta acaaga 216

<210> 571
 <211> 163
 <212> DNA
 <213> Homo sapien

<400> 571

157

tcgagggtttt	gtaatccaag	gttctgacta	aaagcaaaaa	tacacggcat	agattgcaac	60
agcaaagaag	tgtccaatta	aaactagagg	gttaggagac	aatacagaaa	gcagcccaac	120
aggacccgca	acacattcgc	caccaagttt	tgaaataaaag	aaa		163

<210> 572
 <211> 156
 <212> DNA
 <213> Homo sapien

<400> 572						
gccaacgtgc	agcgggtgaa	ggagtaccgc	tccaaactca	tcctcttccc	caggaagccc	60
tcggccccc	agaagggaga	cagttctgct	gaagaactga	aactggccac	ccagctgacc	120
ggaccgggtca	tgcccggtccg	gaacgtctat	tagaag			156

<210> 573
 <211> 414
 <212> DNA
 <213> Homo sapien

<400> 573						
ctggagccgc	tgtggttgct	gtccgcggag	tggaagcgcg	tgcttttggt	tgtgtccctg	60
gccatggcgc	tgcagctctc	ccgggagcag	ggaatcaccc	tgcgcgggag	cgccgaaatc	120
gtggccgagt	tcttctcatt	cggcatcaac	agcattttat	atcagcgtgg	catatatcca	180
tctgaaacct	ttactcgagt	gcagaaatac	ggactcacct	tgcttgtaac	tactgatctt	240
gagctcataa	aatacctaaa	taatgtgggt	gaacaattga	aagattgggt	atacaagtgt	300
tcagttcaga	aactggttgt	agttatctca	aatattgaaa	gtggtgaggt	cctggaaaga	360
tggcagtttg	atattgagtg	tgacaagact	gcaaaagatg	acagtgcacc	caga	414

<210> 574
 <211> 414
 <212> DNA
 <213> Homo sapien

<400> 574						
ctggagccgc	tgtggttgct	gtccgcggag	tggaagcgcg	tgcttttggt	tgtgtccctg	60
gccatggcgc	tgcagctctc	ccgggagcag	ggaatcaccc	tgcgcgggag	cgccgaaatc	120
gtggccgagt	tcttctcatt	cggcatcaac	agcattttat	atcagcgtgg	catatatcca	180
tctgaaacct	ttactcgagt	gcagaaatac	ggactcacct	tgcttgtaac	tactgatctt	240
gagctcataa	aatacctaaa	taatgtgggt	gaacaattga	aagattgggt	atacaagtgt	300
tcagttcaga	aactggttgt	agttatctca	aatattgaaa	gtggtgaggt	cctggaaaga	360
tggcagtttg	atattgagtg	tgacaagact	gcaaaagatg	acagtgcacc	caga	414

<210> 575
 <211> 417
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(417)
 <223> n = A,T,C or G

<400> 575						
tggtatgggt	catataggtt	cggtacaaca	tgaagccatg	gtcctgggta	tggaagaatg	60
agtacttcag	acaaacagaa	ataaaaagagg	acactgtgac	tatagccaag	gaacttttgc	120
gtatagctgt	taagggaggt	tgtcatctcc	accagatgtg	ggtttatgcc	ttacctgctt	180
gacagcctca	aaggtcattg	gcaagattga	atgaatgggc	ccacgggggc	aaagcaagtc	240
taggaaagcc	agtaaagtc	caacctatta	gaataagggg	gaagaattag	aatatcaggg	300

aagttttctgg atagaggaca agaaagaata ggctatttag aaaaaaaaag gtgtgggtccc 360
attatttttca ggcttcaccc tanatgacac atgagcaaaa gccacttcg ccatcat 417

<210> 576
<211> 245
<212> DNA
<213> Homo sapien

<400> 576
ggaagggggg accctgccaa agatgaggct ccagctgccc tggggggagg gtgggtggcca 60
ttactagagg gggcctgggt cctctcccca ggggctgccca gcatccaggc caggaagcct 120
ggagccaaga accttctggc tctgagggag caagagctgg caggcggcag ggctggcaca 180
gacagacgga agcagaaagg acagtttggc tgctgtgtct gctgcgcacg cccctcccc 240
ggaca 245

<210> 577
<211> 418
<212> DNA
<213> Homo sapien

<400> 577
gaaaaccctt taatgttggg ctttctttta ataaaacaga aaggttgacg ctttcccatg 60
gtggctgtaa ggcaagaaca gcagtgaggg cgggcgtgtt ctatcgggca gtgctgcagc 120
ccttgactct ggctcaagggt gggcttcctg gaggcagcgg caaggaggca gttctggatg 180
tgcaggcaca gatgtagggg aacaggcaag cgggcacagg gccctgagct gacaagcagt 240
gaccctgca cccagctaga tggggcaccc cctctctggg agctgagggc atcagctgga 300
gcctcaggct gggaccagcc ccaactttgc cttgggtgact ctgggccatt ccaggcctca 360
gtttcccccac tgtaagggtga ggcattagggc aggaggggggt ggccccagcc agtgtcct 418

<210> 578
<211> 363
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(363)
<223> n = A,T,C or G

<400> 578
aaagcccaga aggcacttta ttggaggtct ctgcctccat tcacaggaga aaggagctgg 60
gagccccatc ctagggtccc agcatcagcc cactggaggg cctggaacag tccagcactc 120
tgtgggagag gagtggggag gggaatgttt tanaaaaaat agatctctat gtacatctga 180
catatttata tagcacataa attagggagt gctctgacct ctgcccgtgg agcccaagca 240
ctgagcaggg aggtgaacgc cagtccagaa agaaggtgct ggagcccctg ctctgttctc 300
tccatcacgg ggctccccta gggcctcccc aggcctcctt ggctcagtcc aggtttgtct 360
gca 363

<210> 579
<211> 403
<212> DNA
<213> Homo sapien

<400> 579
ggaataatca gctcttctgg cccacaagta ggaatgatca atgagaactt aacttagtcc 60
tttattttggg gatttttttca tcaaacaaaa atttcttgaa ttggggagac cacttccctg 120
taactccagt attgccccct ctcacttttag catatattaa ttagcagggtt gggctagaga 180
aatcagctgc tatgcgggtt gattattatt attatttcta atccttttcc ttatttgcct 240

tctactcccc	ttaatcta	ctaaaagctc	tggtccatgc	aactggagtt	ccttatccct	300
ctcttcccct	tcccttatat	attgaggcta	tggggtagga	gaaaagtgca	caaccaccca	360
ccccctttac	tcgtgcatta	aaattttctta	tttacccttt	tcc		403

<210> 580
 <211> 403
 <212> DNA
 <213> Homo sapien

<400> 580						
ggaataatca	gctcttctgg	cccacaagta	ggaatgatca	atgagaactt	aacttagtcc	60
tttatttggg	gattttttca	tcaaacaaaa	atttcttgaa	ttggggagac	caattccctg	120
taactccagt	attgccccct	ctcacttttag	catatattaa	ttagcagggt	gggctagaga	180
aatcagctgc	tatgcgggtt	gattattatt	attattttcta	atccttttcc	ttatttgcct	240
tctactcccc	ttaatcta	ctaaaagctc	tggtccatgc	aactggagtt	ccttatccct	300
ctcttcccct	tcccttatat	attgaggcta	tggggtagga	gaaaagtgca	caaccaccca	360
ccccctttac	tcgtgcatta	aaattttctta	tttacccttt	tcc		403

<210> 581
 <211> 432
 <212> DNA
 <213> Homo sapien

<400> 581						
acctgataaa	agttaataat	ctcttggttag	gaaagctgtc	cattaataag	gccagtcttc	60
agcaaaacta	aaaccatttt	gttcgttttag	ctttcctagt	ctgacaacgc	aatactgttg	120
aaccacagtc	aaatataatg	acaacattgg	atggatagat	cagtaccatt	ggttacagct	180
gttaaacagg	ttcgttcttg	gcgccacata	aaaacaagcc	aataacatcg	aataaatcat	240
ggcttttttt	ttctttatca	caattcactt	aagtgatgtt	aattatggtc	cttgtcaaac	300
acgttttgta	aaggctattt	acagtgtaca	tggctgagca	tgcactattt	atagttacaa	360
agatacctgc	cagtttatta	caatagaata	cacagtgtctg	aaatggtgaa	ctctcccatc	420
ttaatatata	tt					432

<210> 582
 <211> 215
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(215)
 <223> n = A,T,C or G

<400> 582						
gtttattttca	gctttactta	aaatttttagt	ttcaaatgaa	atgaaatgtg	acactgaagc	60
ataagaacac	aactgaagac	tgcaaacaac	ctaattcatt	ttcccagggt	gcttaagcct	120
ncaagcacca	ntcaaatatc	gnantcnatt	aaaagnaggn	ctttcccatt	tgtnngcngc	180
ttcngaattg	aacntattta	aaacntcaa	tttct			215

<210> 583
 <211> 426
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(426)
 <223> n = A,T,C or G

<400> 583

tgggcgcctg	tgggactggg	tgccctctggc	gtgcagaagc	ttctctcttg	gtgtgcctag	60
attgatcggg	ataaggtca	ctctcccgcc	ccccaagt	gttgatcggt	ggaacgagaa	120
aagggccatg	ttcggagtgt	atgacaacat	cgggatcctg	ggaaactttg	aaaagcaccc	180
caaagaactg	atcagggggc	ccatatggct	tcgaggttgg	aaagggaatg	aattgcaacg	240
ttgtatccga	aagaggaaaa	tggttggaag	tagaatgttc	gctgatgacc	tgacacacct	300
taataaacgc	atccgctatc	tctacaaaca	ctttaaccga	catgggaagt	ttcgatagaa	360
gagaaagctg	agaacttcgg	aaaaggctca	tctgtcacc	tgagagaang	aaactgtact	420
tttccc						426

<210> 584

<211> 431

<212> DNA

<213> Homo sapien

<400> 584

cactgttgct	gttttcagat	acaccagaag	agggcatcag	atctcattat	gggtgggtgt	60
gagccaccat	gtgggttgctg	ggatttgaac	tcaggacctt	cggaagaaca	gtcagtgtct	120
ttaaccactg	agccatctct	ccagcccaga	tttccttttg	atggtgaagc	attttaattt	180
taccattttg	ctttgaaagg	gcaactgctct	atgttctggc	actatcggtg	ttctggactc	240
ctcttcgtaa	aacatttctt	tataacaaaa	ggtgcaactta	cttttatttc	ggtgtgtgtt	300
ttgcctgcat	gaacgacttg	acatctcaag	cctacctggt	gtctggagag	gcccgaacag	360
gatgtcagat	gccctagaac	tagagatacc	gaccgttgtg	cgctaccatc	tggtgtgtgg	420
gaattgaact	a					431

<210> 585

<211> 412

<212> DNA

<213> Homo sapien

<400> 585

aagagagaaa	gagaacattt	ttataccaag	gagggattga	ctttcagaaa	agagtagact	60
tctctctcct	cccttcctcc	aaaaaaagaa	gttggaacc	ttctgttttt	gtgtgtgtgt	120
ttttggttgt	tctttgtttg	tttttgtttt	tgagatggag	tctcactctg	tcacccacgc	180
tactgcagtc	agcctgggtg	acagagtaag	attctgtctc	aaaagaaaaa	aaaagacaga	240
aaagaaatgg	actctgatgg	aaaagatgtg	tacaaggctg	attatactaa	gcagagggat	300
atttaaataa	atgctaagaa	gagaggcagg	tgaagctcca	ggggagccat	ccttcccaaa	360
tgttcactta	aattttcagc	ggtttgggta	tgccagatgg	tgaacctagg	ta	412

<210> 586

<211> 431

<212> DNA

<213> Homo sapien

<400> 586

aagaaaagg	agccaagaag	aaagtgggtg	atccattttc	taagaaagat	tggtatgatg	60
tgaaagcacc	tgctatgttc	aataataagaa	atattggaaa	gacgctcgtc	accaggaccc	120
aaggaaccaa	aattgcatct	gatgggtctca	agggctcggt	gtttgaagtg	agtcttgctg	180
atttgcagaa	tgatgaagtt	gcatttagaa	aattcaagct	gattactgaa	gatgttcagg	240
gtaaaaactg	cctgactaac	ttccatggca	tggtatcttac	ccgtgacaaa	atgtgttcca	300
tggtcaaaaa	atggcagaca	atgattgaag	ctcacgttga	tgtcaagact	accgatgggt	360
acttgcttcg	tctgttctgt	gttggtttta	ctaaaaaacg	caacaatcag	atacgggaaga	420
cctcttatgc	t					431

<210> 587

<211> 132

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(132)

<223> n = A,T,C or G

<400> 587

aactttccca	tgggtcaaagg	aaaaacaagc	aggagttgag	tggctggggg	ggggtgcagg	60
caatggagag	agggcataag	ggtgtagaan	ctgaaggggg	ctagaagctt	actcctgagc	120
ttcttaentc	cg					132

<210> 588

<211> 425

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(425)

<223> n = A,T,C or G

<400> 588

gggcttcttc	aangaacctc	agctgaaacc	tntgggggat	tactganttg	atntgnccac	60
cagaacaggn	gngctcgctt	ttgttctgaa	atcaaatacct	cnaaagaccg	ggagaagggg	120
tcacccannc	gtggatcggt	ggcattgtgg	gaaaagggaa	accgnaacgg	cccggtatcat	180
tgacaagccn	cgaagttatt	gaagtcctgc	ctcgtggggc	cacagctgct	tggtcttgct	240
cctgacagtt	caaatagcctc	ctttgagcct	agctcgtgag	atgaaagaac	agaagttggt	300
tggaccttag	agccattatc	cacaatcacg	gatggttctc	aagagttgat	tgtaagaaat	360
ttccaaagaa	ggctgcctgc	atagtgggtc	cggctgccct	ttctaggtga	ttggaatcan	420
cccat						425

<210> 589

<211> 425

<212> DNA

<213> Homo sapien

<400> 589

caacagttat	tttattagga	tgctcagccct	gggtccagag	tgagagatag	ggacagggga	60
cagcccagcg	aggctgggtc	gggggtcact	ccaggatgtt	ccaaccacag	gggcagcatc	120
tcctccactc	cacatgctgg	ccaagggcac	agagctgccg	tatcgccctgc	caaggggggtg	180
gctcaatgct	gctgccctgg	tcctgtatgg	gccgggggtg	ccgagaacag	acagcaagcc	240
tcaggcgccg	gtcctttgag	ctttcttgat	ttcctcagag	agcgccctcct	tcagctctgc	300
gtaggcctgg	tccaggctgt	cgtaaatgat	gaccacatca	aacaggcccg	gctccttgct	360
gctctccatg	tcggcctggg	cagcagccag	ccgcttcacc	aggctctcct	cggtttcagt	420
gttgc						425

<210> 590

<211> 425

<212> DNA

<213> Homo sapien

<400> 590

acaagtatac	atataatcta	gataagggtc	gtaatgtttc	ctaataattaa	ttactgtact	60
taaaaattta	caggacatga	acataaataa	agctgtttta	aactggcaaa	cgtagtaata	120
gtctgtcatt	cagtacaagg	tatatattatg	ttattttcaa	agccatcacc	ctaaaatcct	180
aagttgccac	tcttaaaacc	taaaaataat	gtcgaaaact	aaagtcataa	atacatgtat	240
acatacat	gcatatttac	acttatgcag	aaatcatcaa	tatactagag	cccagcttta	300

acactgtcct	tcagtttcac	acagaaggac	ccctaataac	tgtaaata	taaataatgc	360
agggttaaagg	gaaaagggtgt	tcaggggcact	tottgtcctc	tctgtcccat	aacctacctc	420
caccc						425

<210> 591
 <211> 425
 <212> DNA
 <213> Homo sapien

<400> 591						
aagtatgtat	gtacaagact	caagtaaata	gaaaggcagc	tttcaatcac	aaatcagttt	60
ttcagatttt	actgtggaag	catatttaaat	gcacacattt	gaatgttaca	cataaataat	120
tttaacgatg	gagtccaagt	tctggatttt	acattagatc	tgcatatata	agacacttgt	180
gggtcaaattt	caagatttgt	aaagccagtt	tcaagctgct	tatatatttga	gtacagggtt	240
cactattaca	aatatatgat	gttaactaa	caaactcatg	accttcaaag	atgtcttcgt	300
cccacgcaca	cacatttgta	atttgtgtcc	atttgtctatt	tcccttcttc	tataatcttc	360
aaattatata	gttatgcatt	gagttcccta	tgcatctcac	ccatctcctt	tatctcagcc	420
ttctc						425

<210> 592
 <211> 299
 <212> DNA
 <213> Homo sapien

<400> 592						
agtgaataatg	ggttgggtttt	tgtcttcgac	gctcagggtc	tgggcgcctc	gcatttgacg	60
tctgtttgtga	cagacacggg	gagctccgcg	tgccagcctg	tggctgccct	gctgtggggg	120
tcctggggcc	ggcgaggccc	cttcagttct	gttctggggg	gacggccccc	tcgggggagg	180
gggtgtgctg	tgtcgagcgc	tgtatccctg	aatatagttt	atcttttcta	catttgaatt	240
ctgtttgtaga	tttatgtaaa	aatacattct	ttttgaaaat	aaaaattttc	atgtcttct	299

<210> 593
 <211> 425
 <212> DNA
 <213> Homo sapien

<400> 593						
tttttttttc	tttttcccag	gaggcggcga	cggcggcggc	gggggggagag	gaagagaaaag	60
aagcgtctcc	agctgaagcc	aatgcagccc	tccggctctc	cgcgaagaag	ttccctgccc	120
cgatgagccc	ccgcggtgcg	tccccgacta	tccccaggcg	ggcgtggggc	accggggcca	180
gcgcgcagca	tcgctgccgt	tttgcccttg	ggagtaggat	gtggtgaaaag	gatggggctt	240
ctcccttaag	gggtcacaaa	tggccagaaa	agattccgtg	aagtgtctgc	gctgcctgct	300
ctacgccttc	aatctgctct	tttggaatca	tcacattcca	cttctaaaag	gagctttaaa	360
gatggcctgg	ttgaacgtcc	ttcctttgtg	agtgaggaaa	ttaagtgcag	attaagtgc	420
ttgcc						425

<210> 594
 <211> 425
 <212> DNA
 <213> Homo sapien

<400> 594						
gtcactagct	ggctaaggct	taaagcagag	acgtgtgact	gggtctctcg	ggagggcctc	60
tggttcttcc	cgggctcagg	cttgctgggg	gctggggggc	agggctctgg	cgacctagag	120
gtgtggacgg	cacagctgca	ggaggccttc	tcttaaccct	ccgagagtgg	gactgggaga	180
tttctctga	agtcccaaag	aggccctgtg	cccaggggac	ctcctctctg	gcctcccagg	240
tgggtggtgc	aagctggttc	ttggccatgc	tccaggctcg	ggtgggcaca	ggcgtccact	300
ccagtgtgct	gcgtgcttgt	gagactgcct	gttctgggac	cagccctggg	gctcttccac	360

caagatttgg tgaggggtccc cctctgcctc tcacagaagc ccctggccct ggactgtcct 420
 ggggg 425

<210> 595
 <211> 162
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(162)
 <223> n = A,T,C or G

<400> 595
 ctttacatta ttttttttcc aaaaagacta gtattttatac aangggcaat agaaacaaaa 60
 acaaaaaccc ttccgactgc cacctggaag gggctggctg gnctgctccc tctccacact 120
 ggaacngggg ggggcactgg gcaggaggga atgngganng gg 162

<210> 596
 <211> 283
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(283)
 <223> n = A,T,C or G

<400> 596
 aagggtgactc aacaccntct tcctcaagga cttcttggtg atactctctt gtctttttcca 60
 gttaccctct tcctcctttg tcctctgtgc ttgggctcac aacttnatgg nctgnacttn 120
 ataaaaaac natggcaact ttgncctgan tgnccnccctn cccaanctga nctggntgga 180
 anaagaaact tggaaactat ntnanccatg gntttgggan nctnccccct tncccatgnc 240
 tnctaataaa accatgcant gccttttgag agaagagacc ccc 283

<210> 597
 <211> 426
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(426)
 <223> n = A,T,C or G

<400> 597
 gaaatacaaaa tgtggattct catcactgaa aaatctttga ngntgngttt attccttttca 60
 tcattttttta aatatttttt ttactgccta tgggctgtga tgtatataga agttgtacat 120
 taaacatacc ctcatTTTTT totttttttt tttttttttt ttttttagccc aaagtttttag 180
 tttctttttt atgatgnggn acctccnaag ngatgggaga ttttaaataat tttttatttt 240
 tattttatat atttnttcat tagggccttt tctcccnaaa acgaaanaaa aantccnaaa 300
 aacnaaaccc aaaaaaanag agggtantgt ccnagtttct gtatgtataa agtcntncnc 360
 gatttcagga gagcnctggn cccaatttgc tcntgaatc aaggngngna aatgggtttt 420
 ttggcg 426

<210> 598
 <211> 412
 <212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(412)

<223> n = A,T,C or G

<400> 598

tttttttttt	tttttttttg	ccacctagag	atgataatit	attgtttttac	catgactcag	60
aagagaaaca	acataaagag	aatatitcaa	atccccacaa	tttccttctc	aacctcacta	120
ctcttaacat	ttctttatca	gacgccactg	gcttcctaaa	atggaccctg	gactatgtat	180
ggggaccaca	ttcattatgc	tgcttttctc	cttatgatta	aaacttttagc	cctcattcga	240
nggttccaat	ggtactttta	gnggaggagt	ccctagcttt	taaaaaaacc	acttttcctn	300
taaaatccnt	tnittatnga	aaaaaancnt	ttttaaaaat	gttaaggagg	attttaaatg	360
accatattca	attaaaaaaa	aaatnocctn	tggaacatnt	tngcagaaac	ct	412

<210> 599

<211> 415

<212> DNA

<213> Homo sapien

<400> 599

ccaagatgac	aaagaaaaga	aggaacaatg	gtcgtgccaa	aaagggccgc	ggccacgtgc	60
agcctattcg	ctgcactaac	tgtgcccgat	gcgtgcccaa	ggacaaggcc	attaagaaat	120
tcgtcattcg	aaacatagtg	gaggccgcag	cagtcaggga	catttctgaa	gcgagcgtct	180
tcgatgccta	tgtgcttccc	aagctgtatg	tgaagctaca	ttactgtgtg	agttgtgcaa	240
ttcacagcaa	agtagtcagg	aatcgatctc	gtgaagcccg	caaggaccga	acacccccac	300
cccgatttag	acctgcgggt	gctgccccac	gtccccccac	aaagcccatg	taaggagctg	360
agttcttaaa	gactgaagac	aggctattct	ctggagaaaa	ataaaatgga	aattg	415

<210> 600

<211> 208

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(208)

<223> n = A,T,C or G

<400> 600

aaaccgcctt	tttttttttt	ttttttttta	tatgcagttt	gtaanaacaa	aactggatgg	60
catcanaatt	gtctggaagt	tttgtcttgg	gcagtatggg	ctgggccaaa	tgaaatgatt	120
tttataattc	taaacaggtt	accaaataaa	atgtcatggc	tttacttttg	caattaaagg	180
ggggaatttt	tttaaaaaaa	aaaaaaaaa				208

<210> 601

<211> 165

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(165)

<223> n = A,T,C or G

<400> 601

tgcaggtcga	cactagtgn	tcctaaagaaa	gtaacctaaa	cttgacctgc	ttaatacatt	60
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165

ctagggcaga gaaccagga tgggacacta aaaaaatgtg tttatttcat tatctgcttg 120
gatttatttg tgtttttgta acacaaaaaa taaatgtttt gatata 165

<210> 602
<211> 416
<212> DNA
<213> Homo sapien

<400> 602
aaaacggttt tgccgagttg ggacgtccac tgctgtcaag tcaaccagag atttgaactg 60
tgcattggtg tgatccctga ggaaagtcag cactgggatg acgccatcag gatggatata 120
gacctctaac tcattgaagc aggacacctg aacttggttg acatacttgg gcaagatttc 180
agccacatac tctccaaaag ctgagagctg cttgtgggcc acatcattcc gtggtctgac 240
agtggggcgc gtgtcggccc cggcgtcttc ccgcctcacc ggcagcaaca gaacggaggg 300
tcgcccagtc cccctgggtc gcgccgaggg cccaagatc ccgcgccacc acagcctggc 360
taccgcgcgc gcgagtactt ctagagcggc cgcggggcca tcgattttcc acccgg 416

<210> 603
<211> 416
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(416)
<223> n = A,T,C or G

<400> 603
catgagcata aaaaaaaaaa ccaaacctgt nccatacccc tcccactcat gcaaacagot 60
cttaaaatga agaattcttt caaaatttta cgttttttnc attcttggct caattctttt 120
gctttcctca tcatcagaat tcaaaccttg ggcaaacatg ggttttgggc tgantctttg 180
gaatatgctg gaaaaacccc aatatgggct gcttctgctt gtttggcatg acgcaaaatg 240
gnttcccang atactgcata gtcttgccaa gaatgttcca ttagaaaaag gcccggttcc 300
tcgccacact ggctggcctc tgctgggtgc ntctagagta tatcggtctg acctcagtgc 360
atctgtccat aatttttttg aaaaaaaaaa ctcaatctta acgcgggcat attcnc 416

<210> 604
<211> 414
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(414)
<223> n = A,T,C or G

<400> 604
aaaatttatg agctttatta aagcggttta tcacaaagat ggaaacgtac aaatgagaag 60
catgcaacca tcatcttcca cagtcaagtc aaactgctat ttctctctct ctctgtttc 120
atagagctgg aaactgcagg tgttataccc aacctattca tcctcaacac ttagtgcacg 180
ccccggaac tactcagggc accaaacatc caaaacataa actattatta taaaaagaaa 240
gtgcaaagtt aaaaaagaaa acatggagac ccctcccccc cataccctca nctaaaggct 300
aacaatggca cttgggctct tgcttaatct agattgtctt caaaaagtct ctaaaatgng 360
atactgngng ngnggggggg ngngaanggt ccaaaagctn cttagtgttt gaaa 414

<210> 605
<211> 417
<212> DNA

<213> Homo sapien

<400> 605

tcctctttca	caatcactca	acaaacaggt	cacacatccc	ctaggtccac	gaactcatct	60
tctcgtttgg	ccaaatcgtc	ttcatctccc	aaagctttcc	agccactggg	gggtaagacg	120
ggcttagagg	aatgtcgctg	gagcagagcg	aaaggaaaca	aagacgagag	gcgggcagag	180
ttcctcagca	ggcagggggc	ctcagcctgg	ggggcctgct	ggctgtgggtg	tctctcgctg	240
atcttctctt	gtaaactctg	gacttctccc	atcatttcca	agagtttgct	cagagtggcc	300
acttggccac	cacctaggat	ttgggcttct	ggaatccaac	gtaggtagcg	ctgggcccag	360
actttgattt	cgggcccctc	gatatgcggt	aacaacaaac	catggtagtc	agtggac	417

<210> 606

<211> 413

<212> DNA

<213> Homo sapien

<400> 606

ctgaattctt	taatttataaa	aatcatatcc	taggaggtgt	gctataggaa	ttcagatata	60
ataagttgca	tataaaaccc	gaactcattg	ctcattgtgg	ttaaagcaagg	atgatgagaa	120
aatgcacctc	aggagcaaaa	acacgcttta	cgggcaactcc	gggacccaag	tcccagagaca	180
tttccacgtg	accttctgga	aagacacacc	gcccacctga	ctgcacgacg	ggactgggtcc	240
agcctcccgg	ctcctcagga	aggagatgag	tttcctacaa	agtgagtggc	cacagctcca	300
ggacagggcg	tccacatgtc	gttgtgggtc	tggctggatt	ttgaggtgcc	gaggaaactgg	360
tcggtgtcct	gatcgtattg	taogtgggtc	tctcgatctc	ccaactgcca	taa	413

<210> 607

<211> 414

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(414)

<223> n = A,T,C or G

<400> 607

attttcatta	aaactgtcag	aatttgctta	ctataattat	gatacagtc	aaagaatgca	60
gtcacttttt	atcatgttaa	ctaattgttc	tcttttgaag	atctatgggt	gactaattaa	120
acaataattc	aagtagagtg	tcccagaaaa	aaaccacttg	ggctccctgt	ttggagtctg	180
gctggctctg	agcattgcca	atggccccta	ctcacctgac	tttgtatcct	ctccttttag	240
aggcttttgc	ttctgcaccc	agcttcacta	acagtgggct	gaaaacatcc	ttgggttgag	300
tgtttcattt	gggagttatt	tggccagggc	cttttgaaca	gtaagtgtcc	ccatgaagtg	360
ctagataata	tatggngtaa	agangtcagc	tttttttttt	tttttaactc	taac	414

<210> 608

<211> 415

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(415)

<223> n = A,T,C or G

<400> 608

gcagtgggtct	gatcttaagg	gnctatatat	ttgcacctcc	tcattcaaca	cagggctgga	60
ggtttctacaa	caggaaatca	ggcctacagc	atcctgtgta	tcttgagttt	gggattttta	120
aacatactat	aaagtctgtg	ttggatatag	acccttcata	aggaaaaaat	gaagtaatgc	180

ctataagtag	caggcctttg	tacctcagtg	tgaagagaaa	tcaagagatg	ctaaaagctt	240
tacaatggaa	gtggcctcat	ggatgaatcc	ggggtatgag	cccagganaa	cggtgctgctt	300
tttggtnacn	tatccctttt	tntcttaaga	aagcanggtg	ctntcttatt	annaaatatg	360
ttaaaaaatg	gnaagcaaac	nacaggtgcc	tttanaaatt	accaattntt	aactt	415

<210> 609
 <211> 420
 <212> DNA
 <213> Homo sapien

<400> 609						
ggtttttaaaa	ttatttcttg	aatctctcca	tacacaggca	aaaataagtg	tgttacttaa	60
catactggaa	attgcctaac	ttaatcattg	cctaaagaag	agaaaattat	ccccaaaacg	120
tgcttaacca	ggaggccaat	gcatttgccg	acctccaaga	acatggagat	gaacgtgata	180
gacagactgt	ccaccatctg	aaccttcatt	caccaccatt	cgataaccct	tattcaggcc	240
cagatcagca	gcacatttct	tgccaacaat	cattaagtgt	ccaagaagac	tttcatcatc	300
atcttctgcc	acagaaatct	gggatatatg	tttcttgggt	atcaccagaa	aatgtgttgg	360
tgcttgaggg	gaaatgtcat	ggaaagcaag	gcaçcggtca	tccttaaaaa	tgatttttggc	420

<210> 610
 <211> 158
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(158)
 <223> n = A,T,C or G

<400> 610						
caactttaaa	aaaaagggg	cggtnaaana	nccaaanata	aaaagggtccc	tttgggtggat	60
aaaggnccct	ttccgggacc	ggnccnggac	ccacctttgg	gcccaaagg	ggatttaccg	120
ggtaaacc	gcctttaaag	cgttgggggt	taaatttc			158

<210> 611
 <211> 159
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(159)
 <223> n = A,T,C or G

<400> 611						
tcgacactag	tggatccaaa	ggaagatggc	ggacattcag	actgagcgtg	cctacccaaa	60
gcagccgacc	atctttcaaa	acaagaagag	ggtcctgctg	ggagaaactg	gcaaggagaa	120
gctccgcg	tnctacaaga	acatcgnctc	gngnttcaa			159

<210> 612
 <211> 419
 <212> DNA
 <213> Homo sapien

<400> 612						
gcatttttta	ttaagacatt	tggggcccg	gtttcctctc	ctcctcccct	ccatcctgtg	60
ctctctaaat	tcagcttttg	gaaacctaa	tgtgcccacc	ttccccagca	ggtagccaga	120
gcctccgggg	tcctcttcc	ttccttcttt	ctccccagat	actgcaagag	acacccaagt	180

ctgctgtcag	cagaggggtga	agcgtctggc	actgatgttc	atgcgcgtga	gtcccagatg	240
ccgcagcggg	ggggccagag	gcaagccagt	cccagactct	aactccatct	ccagctcagc	300
ctcatccaga	agctcctggg	gcaggtgaca	gacttgggtcc	actttcagtc	tgtgcagccg	360
ggcccgcagc	ctgagcagct	gccctgccag	ctgccgggtcc	tgagcccgca	tctcctgca	419

<210> 613
 <211> 419
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(419)
 <223> n = A,T,C or G

<400> 613						
ccccatactg	aggcatataa	agtttgcaaa	accaaggggc	ctgtcttccc	aaggtcttac	60
tataaaatct	gggttaggct	aaaacttatt	atgtagacca	gagaggcggt	gattttaaac	120
caatcatcct	gtctcatctt	cattattttct	ggctttatga	gcagaatgtc	ctgctacctt	180
tggtctctta	taaagatctt	taatggagta	ttttaaacat	tggaataatcc	atgagtttga	240
gcttatttgg	agaatgctgc	taagaatggg	attgactgac	ataacttact	agcctctttc	300
ctgcttgagg	tacagcagtt	ttcaatccca	atgtgtaaag	tgcttagaag	ttatcactcc	360
ccaccttaga	gcaaaaacct	tcagagaact	tcagncactc	caccaggcaa	atagcacct	419

<210> 614
 <211> 123
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(123)
 <223> n = A,T,C or G

<400> 614						
gnggtatgga	ctagaaaact	tggaatgact	catgaanaaa	ccttggaatg	acacatgaag	60
catgataggg	aaantnattc	tgaggcnnga	ngcttnactg	aattntttcc	anccagnngt	120
ntt						123

<210> 615
 <211> 362
 <212> DNA
 <213> Homo sapien

<400> 615						
gaccttgagg	tttcatcggg	tgattgccct	tgatttctta	ggctttggct	tcagtgacaa	60
accgagacca	catcactatt	ccatatttga	gcaggccagc	atcgtggaag	cgcttttgcg	120
gcatctgggg	ctccagaacc	gcaggatcaa	ccttctttct	catgactatg	gagatattgt	180
tgctcaggag	cttctctaca	ggtacaagca	gaatcgatct	ggtcggctta	ccataaagag	240
tctctgtctg	tcaaatggag	gtatctttcc	tgagactcac	cgtccactcc	ttctccaaaa	300
gctactcaaa	gatggagggt	tgctgtcacc	catcctcaca	cgactgatga	acttctttgt	360
at						362

<210> 616
 <211> 210
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(210)
 <223> n = A,T,C or G

<400> 616
 tgatgccacc ccgtcacccc tcccctcctg agcagggatc caagaatgtg ccaagagtcc 60
 cgccagcctc agccagggtg gcctgtatat aggggtccatg tgcaataggg agggagcgtct 120
 tctatttttt gctgccccct ccccgcccac tgtctnngggg caggggggaga aggtattttc 180
 nagataaagc acangcacca caaataaaaag 210

<210> 617
 <211> 511
 <212> DNA
 <213> Homo sapien

<400> 617
 acgagctttc gtggctcact ccccttcctc tgetgccgct cggtcacgct tgtgcccga 60
 ggaggaaaca gtgacagacc tggagactgc agttctctat ccttcacaca gctctttcac 120
 catgcctgga tcacttcctt tgaatgcaga agcttgctgg ccaaaagatg tgggaattgt 180
 tgcccttagag atctattttc cttctcaata tgttgatcaa gcagagttgg aaaaatatga 240
 tgggtgtagat gctggaaaagt ataccattgg ctctggccag gccaaagatgg gcttctgcac 300
 agatagagaa gatattaact ctctttgcat gactgtgggt cagaatctta tggagagaaa 360
 taacctttcc tatgattgca ttgggcggct ggaagtgtga acagagacaa tcatcgacaa 420
 atcaaagtct gtgaagacta atttgatgca gctgtttgaa gagtctggga atacagatat 480
 agaaggaatc gacacaacta atgcatgcta t 511

<210> 618
 <211> 511
 <212> DNA
 <213> Homo sapien

<400> 618
 acgaggccac agaggcggcg gagagatggc cttcagcggc tcccaggtc cctacctgag 60
 tccagctgtc cctttttctg ggactattca aggaggtctc caggacggac ttcagatcac 120
 tgtcaatggg accgttctca gctccagtgg aaccaggttt gctgtgaact ttcagactgg 180
 cttcagtga aatgacattg ccttcactt caaccctcgg tttgaagatg gagggtagct 240
 ggtgtgcaac acgaggcaga acggaagctg ggggcccga gagaggaaga cacacatgcc 300
 tttccagaag gggatgccct ttgacctctg cttcctgggt cagagctcag atttcaagggt 360
 gatggtgaac gggatcctct tcgtgcagta cttccaccgc gtgcccttcc accgtgtgga 420
 caccatctcc gtcaatggct ctgtgcagct gtcctacatc agcttccagc ctcccggtgt 480
 gtggcctgcc aaccgggtc ccattaccca g 511

<210> 619
 <211> 413
 <212> DNA
 <213> Homo sapien

<400> 619
 gaattcggca cgagctggac aggagaagag cctggctgct gaaggcaggg ctgacacgac 60
 cacgggcagc attgctggag ccccagagga tgaaagatcg cagagcacag cccccaggc 120
 accagagtgc ttcgaccctg ccggaccggc tgggtcgtg aggccgacat ctggcctttc 180
 ccagggccca ggaaaggaaa ccttggaag tgctctaate gctctagact ctgaaaaacc 240
 caagaaactt cgcttcacc caaagcagct gtacttctct gccaggcagg gtgagctgca 300
 gaaggtgctt ctcatgctgg ttgatggaat tgatcccaac ttcaaaatgg agcaccaaag 360
 taagcgttcc ccattacatg ctgctgcgga ggctggccac gtggacatct gcc 413

170

<210> 620
 <211> 415
 <212> DNA
 <213> Homo sapien

<400> 620
 gaattcggca cgagcggcga cgggtggtggt gactgagcgg agcccggtga caggatgttg 60
 gtgttggtat taggagatct gcacatccca cacoggtgca acagtttgcc agctaaattc 120
 aaaaaactcc tggtgccagg aaaaattcag cacattctct gcacaggaaa cctttgcacc 180
 aaagagagtt atgactatct caagactctg gctggtgatg ttcataattgt gagaggagac 240
 ttcgatgaga atctgaatta tccagaacag aaagtgtgta ctgttggaca gttcaaaatt 300
 ggtctgatcc atggacatca agttattcca tggggagata tggccagctt agccctgttg 360
 cagaggcaat ttgatgtgga cattcttate tcgggacaca cacacaaatt tgaag 415

<210> 621
 <211> 421
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(421)
 <223> n = A,T,C or G

<400> 621
 agaattcngc acgagtggca gcctaagccg tgggaggggt ccagtcgaga atgggaagat 60
 gaaagacttc agatggaaca gaaataaatg ccttttttga caaacgcagc agtgcgtgcc 120
 tctagcttgc aagagcgtta ctcccttca tagcttttaa aggttttcgc actgcgtgca 180
 gttagagtag ctaaattctt tgtgacgctc cacaaacact tgtaagaatt ttgcagagaa 240
 agataaccgt tgccacccaa tgccccccac aggcattcta ctccccagta cctcttaggg 300
 tgggagaaat ggtgaagagt tgttcctaca acttgctaac ctagtggaca gggtagtaga 360
 ttagcatcat ccg gatagat gtgaagagga cggctgtttg gataataatt aaggataaaa 420
 t 421

<210> 622
 <211> 431
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(431)
 <223> n = A,T,C or G

<400> 622
 cccggggngg ncctggncat aaaactttta attttactag tgttacttaa tgtatattct 60
 aaaaagagaa tgcagtaact aatgccctaa atgtttgatc tctgtttgtc attacttttt 120
 caaaattatt tttttctgta aagtataata tataaaactt cttgcttaaa ttgaatttct 180
 atattagtgg ttaattgcag tttattaaag ggatcattat cagtaatttc atagcaactg 240
 ttctagtgtt ttgtgttttt aaaacagaat taggaatttg agatatctga ttatattttt 300
 catatgaatc acagacctcg gccgcgacca cgctaagggc gaattccagc aactggcgg 360
 ccgtacttag tggatccgag ctccgtacca agcttgggag taatcatggt catagcctgt 420
 ttctgtgtg a 431

<210> 623
 <211> 421
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(421)
 <223> n = A,T,C or G

<400> 623
 agaattcggc acgaggaaac atggactgcc ccttaaattt tgactgtcct aaaaacctat 60
 ttctgattta taatatgctg nctgataaag tgacactaga ngnaccnact nnatgggttta 120
 aatcttccca ttcccagaat ccagaatttt ggaagccatt ttaaccaggg gtatTTTTtn 180
 caccattacc ttttggaaact ttccaaatta atggcctttt aaaaagggtg gaaggggaaa 240
 accaaaaggc caaaatttta aaaagggttg gggggggaac cttaaaaaaa aaaatgggtt 300
 ttggggccnc ctttttttaa aaggccaaaa nttttttggg ttccaattaa aaaaatttcc 360
 tttttccaac ccaaaattaa gaaaaggnaa aattaaaaaa attncaaaaa ttggnTTTTt 420
 t 421

<210> 624
 <211> 421
 <212> DNA
 <213> Homo sapien

<400> 624
 aagaattcgg cactagcgga tgtgtctact gacattctac tccaagtcgg agatgcagat 60
 ccactccaag tcacacaccg agaccaagcc ccacaagtgc ccacattgct ccaagacctt 120
 cgccaacagc tcctacctgg ccagcacat ccgtatacac tcaggggcta agccctacag 180
 ttgtaacttc tgtgagaaat ctttcgccca gctctccac cttcagcagc acaccgaat 240
 ccacactggt gatagaccat acaaatgtgc acaccaggc tgtgagaaag cttcacaca 300
 actctccaat ctgcagtccc acagacggca acacaacaaa gataaacctt tcaagtgcc 360
 caactgtcat cgggcgtaca cggatgcagc ctactagag gtgcacctgt ctacgcacac 420
 a 421

<210> 625
 <211> 421
 <212> DNA
 <213> Homo sapien

<400> 625
 agaattcggc acgagctact ctttgcgcgc tggcactccg cagcctttaa gggtcgcgcg 60
 ggggccaggc aagagttatg catgaagagc ctcaagtccc gcctgaggag gcaggacgtg 120
 cccggcccg cgtcgtctgg cgcgcgcgc gccagcgcgc atgcagcaga ttggaataaa 180
 tatgatgacc gattgatgaa agcagcagaa aggggggatg tagaaaaagt gacgtcaatc 240
 cttgctaaaa aggggtcaa tccaggcaaa ctatagtgtg aaggcagatc tgtcttccat 300
 gttgtgacct caaaggggaa tcttgagtgt ttgaatgcc tcttataca tggagttgat 360
 attacaacca gtgacactgc agggagaaat gctcttcacc tggctgctaa gtatggacat 420
 g 421

<210> 626
 <211> 476
 <212> DNA
 <213> Homo sapien

<400> 626
 agaattgata tatagattta atgcaatgcc tactaaaaatc ccagtacgat tttttacagg 60
 catagacaat agacatagcc aaaacttatt ctaaaataca tatgaagatg cacaggccct 120
 agttatacaa tcttgacaaa gaagaataaa gtgggaagaa tctatttgat tttaggctt 180
 accatgtaac tacagtcac aagagagtgt ggtatcggca gacggtcaga catacagatc 240
 aatggaatgt aacagaggac ccagaaatag gccacacag atatgctcaa tggatatttg 300
 acaagcgtgc aaaacaattc aatggaagaa taagctttca aaaaaatggc gttggagcaa 360

ccggacatcc ataggaaaaa atgaacccat acctaaacca taaaccttat ataaaaataa	420
acacaaaaatg aatcataggc ttaaattgtaa gctataaaac ttttagagaa aaacac	476

<210> 627
 <211> 503
 <212> DNA
 <213> Homo sapien

<400> 627	
tagccctcgg tgaagcccca gaccacagct atgagtcctt tctgtgtgacg tctgcgcaga	60
aacatgttct gcatgtccag ctcaaccggc ccaacaagag gaatgccatg aacaaggctt	120
tctggagaga gatggtagag tgcttcaaca agatttcgag agacgctgac tgtcgggcgg	180
tggatgatctc tgggtgcagga aaaatgttca ctgcagggtat tgacctgatg gacatggctt	240
cggacatcct gcagcccaaaa ggagatgatg tggcccggtat cagctgggtac ctccgtgaca	300
tcatcactcg ataccaggag accttcaacg tcatcgagag gtgccccaaag cccgtgattg	360
ctgccgtcca tgggggctgc attggcggag gtgtggacct tgtcaccgcc tgtgacatcc	420
ggtactgtgc ccaggatgct ttcttccagg tgaaggagggt ggacgtgggt ttggctgccc	480
atgtagggaac actgcagcgc ctg	503

<210> 628
 <211> 248
 <212> DNA
 <213> Homo sapien

<400> 628	
taagtccagg gggaataact gtaggcattc ctggaatcac tgtcttctgt tccatttgtt	60
cttgggtcca gcggctcttc ttccgcttct tacttgggaa gtccaacggc gtggcgttcg	120
ctccggtcgc catggcgccc ccggggacag gcaccggcac ctgcttttcc tctgcggcgg	180
cttctccttc gcaagcctcc cggggggagg ggaccogaat gcgctgcggg agcgcgcgga	240
gcccgtcc	248

<210> 629
 <211> 99
 <212> DNA
 <213> Homo sapien

<400> 629	
actgccagtc caaaggcatc gtggtgaccg cctacagccc cctcggctct cctgacaggc	60
cctgggcca gcccaggagac ccttctctcc tggaggatc	99

<210> 630
 <211> 640
 <212> DNA
 <213> Homo sapien

<400> 630	
gaagacatga tgctacactc agctttgggt ctctgcctct tactcgtcac agtttcttcc	60
aaccttgcca ttgcaataaa aaaggaaaag aggcctcttc agacactctc aagaggatgg	120
ggagatgaca tcaattgggt acaaaattat gaagaaggctc tcttttatgc tcaaaaaagt	180
aagaagccat taatggttat tcatcacctg gaggattgtc aatactctca agcactaaag	240
aaagtatttg cccaaaatga agaaatacaa gaaatggctc agaataagtt catcatgcta	300
aaccttatgc atgaaaccac tgataagaat ttatcacctg atgggcaata tgtgcctaga	360
atcatgtttg tagacccttc tttaacagtt agagctgaca tagctggaag atactctaac	420
agattgtaca catatgagcc tcgggattta cccctattga tagaaaacat gaagaaagca	480
ttaagactta ttcagtcaga gctataagag atgatggaaa aaagccttca cttcaaagaa	540
gtcaaatctc atgaagaaaa cctctggcac attgacaaat actaaatgtg caagtatata	600
gattttgtaa tattactatt tagttttttt aatgtgtttg	640

173

<210> 631
 <211> 168
 <212> PRT
 <213> Homo sapien

<400> 631
 Glu Asp Met Met Leu His Ser Ala Leu Gly Leu Cys Leu Leu Leu Val
 1 5 10 15
 Thr Val Ser Ser Asn Leu Ala Ile Ala Ile Lys Lys Glu Lys Arg Pro
 20 25 30
 Pro Gln Thr Leu Ser Arg Gly Trp Gly Asp Asp Ile Thr Trp Val Gln
 35 40 45
 Thr Tyr Glu Glu Gly Leu Phe Tyr Ala Gln Lys Ser Lys Lys Pro Leu
 50 55 60
 Met Val Ile His His Leu Glu Asp Cys Gln Tyr Ser Gln Ala Leu Lys
 65 70 75 80
 Lys Val Phe Ala Gln Asn Glu Glu Ile Gln Glu Met Ala Gln Asn Lys
 85 90 95
 Phe Ile Met Leu Asn Leu Met His Glu Thr Thr Asp Lys Asn Leu Ser
 100 105 110
 Pro Asp Gly Gln Tyr Val Pro Arg Ile Met Phe Val Asp Pro Ser Leu
 115 120 125
 Thr Val Arg Ala Asp Ile Ala Gly Arg Tyr Ser Asn Arg Leu Tyr Thr
 130 135 140
 Tyr Glu Pro Arg Asp Leu Pro Leu Leu Ile Glu Asn Met Lys Lys Ala
 145 150 155 160
 Leu Arg Leu Ile Gln Ser Glu Leu
 165

<210> 632
 <211> 402
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(402)
 <223> n = A,T,C or G

<400> 632
 gcccgacgt aggtagtttg ttgggcggg ttctgaggcc ttgcttctct ttacttttcc 60
 actctaggcc acgatgccgc agtaccagac ctgggaggag ttcagccgcg ctgccgagaa 120
 gctttacctc gctgacccta tgaaggcacg tgtggttctc aaatataggc attctgatgg 180
 gaacttgtgt gttaaagtaa cagatgattt agtttgtttg gtgtataaaa cagaccaagc 240
 tcaagatgta aagaaaattg agaaattcca cagtcaacta atgcnactta tggtagccaa 300
 ggaagcccgc aatgttacca tggaaactga gtgaatgggt tgaaatgaaa ctttgtcgtg 360
 tacttaggaa gtaaatatct ttgaattan aaaaagtgtt gg 402

<210> 633
 <211> 402
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(402)
 <223> n = A,T,C or G

<400> 633

gcggagtcgg	gtgggttgcc	ggctataaag	ctggtagcga	aggggagggc	ccgcggactg	60
tcctttcgtg	gctcaactccc	tttcctctgc	tgccgctcgg	tcacgcttgc	tctttcacca	120
tgctggatc	acttcctttg	aatgcagaag	cttgctggcc	aaaagatgtg	ggaattgttg	180
cccttgagat	ctattttcct	tctcaatatg	ttgatcaagc	agagttggaa	aaatatgatg	240
gtgtagatgc	tggaaagtat	accattggct	tgggccangc	caagatgggc	ttctgcacag	300
atagagaaga	tattaactct	ctttgcatga	ctgtggttca	gaatcttatg	gagagaaata	360
acctttccta	tgattgcatt	gggcggnctg	aagttggaac	ag		402

<210> 634

<211> 386

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(386)

<223> n = A,T,C or G

<400> 634

tcgaggtcga	cactagtggg	tccaaanaat	tccgcacgag	gctggcaaga	agagacgagg	60
cccggctgtg	gagcaactga	accgggtgac	tgtcccaagc	tggaactccct	ggtggcccag	120
cagctgcaga	gcaagaatga	gtgtggaatc	cttgccgacc	ccaagggggc	cttccgggag	180
tgccatagca	agctggaccc	ccagggtgcc	gtgcgcgact	gtgtctatga	ccgctgcctg	240
ctgccaggcc	agtctggggc	actgtgtgac	gcactggcca	cctatgctgc	tgcatgccag	300
gctgctggag	ccacagtgea	ccctggagg	agtgaagaac	tttgcccact	tgancgtcca	360
ccncacannc	ctatnaggcg	tgtttct				386

<210> 635

<211> 404

<212> DNA

<213> Homo sapien

<400> 635

gccaccactt	cgtagtgttt	tggaacaaac	caagttaaag	aaagaagata	tttatgcagt	60
ggagatagtt	ggtggtgcta	cacgaatccc	tgcggtaaaa	gagaagatca	gcaaattttt	120
cggtaaagaa	cttagtacia	cattaaatgc	tgatgaagct	gtcactcgag	gctgtgcatt	180
gcagtgtgcc	atcttatcgc	ctgctttcaa	agtcagagaa	ttttctatca	ctgatgtagt	240
accatatcca	atatctctga	gatggaattc	tccagctgaa	gaagggtcaa	gtgactgtga	300
agtcttttcc	aaaaatcatg	ctgctccttt	ctctaaaagt	cttacatttt	atagaaagga	360
acctttcact	cttgaggcct	actacagctc	tcctcaggat	ttgc		404

<210> 636

<211> 403

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(403)

<223> n = A,T,C or G

<400> 636

gctcactggt	ccccagtgcc	ctgctggagc	aagcctatgc	tgtgcagatg	gacttcaacc	60
tgctagtgga	tgctgtcagc	cagaacgctg	ccttcctgga	gcaaactctt	tccagcacca	120
tcaaacagga	tgactttacc	gctcgtctct	ttgacatcca	caagcaagtc	ctaaaagagg	180
gcattgccca	gactgtgttc	ctgggcctga	atcgtcaga	ctacatgttc	cagcgcagcg	240

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cagatggctc cccagccctg aaacagatcg aaatcaacac catctctgcc agctttgggg 300
gcttgccctc ccggacccca nctgtgcacc gacatgttct cagtgtcctg agtaagacca 360
aagaagctgg caagatcctc tctaataatc ccagcaaggg act 403

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<210> 637
<211> 441
<212> DNA
<213> Homo sapien

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<220>
<221> misc_feature
<222> (1)...(441)
<223> n = A,T,C or G

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<400> 637
aggtcgacac tagtggatcc aaanaattcg gcacgaggag agagacccta aaagcaaaaa 60
tagaagggat gacccaaagt ctgagaggtc tggattaga tgttggtact ataaggtcag 120
aaaaagaaaa tctgacaaat gaattacaaa aagagcaaga gcgaatatct gaattagaaa 180
taataaattc atcatttgaa aatattttgc aagaaaaaga gcaagagaaa gtacagatga 240
aagaaaaatc aagcactgcc atggagatgc ttcaaacaca attaaaagag ctcaatgaga 300
gagtggcagc cctgcataat gaccaagaag cctgtaaggc caaagagcag aatcttagta 360
gtcaagtaga gtgtcttgaa cttgagaagg ctcagttgct acaaggcctt gatgaggcca 420
aaaataatta tattgtttgc a 441

```

```

<210> 638
<211> 404
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(404)
<223> n = A,T,C or G

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<400> 638
gcgctgcccgc cgattccgga tctcattgcc acgcgcccc gcacgaccgcc cgacgtgcat 60
tcccgattcc ttttggttcc aagtccaata tggcaactct aaaggatcag ctgatttata 120
atcttctaaa ggaagaacag acccccaga ataagattac agttggttggg gttggtgctg 180
ttggcatggc ctgtgccatc agtatcttaa tgaaggactt ggcagatgaa cttgctcttg 240
ttgatgtcat cgaagacaaa ttgaaggagg agatgatgga tctccaacat ggcagccttt 300
tcttagaaca ccaaagattg tctntggcaa agactataat gtaactgcaa ctncagctgg 360
cattatcacg ntggggacgt cagaagaagg agaaagccgc ttat 404

```

```

<210> 639
<211> 404
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(404)
<223> n = A,T,C or G

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<400> 639
gcatgtaccg agcacttcgg ctcctcgcgc gctcgcgtcc cctcgtgcgg gctccagccg 60
cagccttagc ttcggctccc ggcttgggtg gcgcggccgt gccctcgttt tggcctccga 120
acgcggctcg aatggcaagc caaaattcct tccgataga atatgatacc tttggtgaac 180
taaagggtgcc aaatgataag tattatggcg ccagaccgt gagatctacg atgaacttta 240

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agattggagg	tgtgacagaa	cgcatgccaa	ccccagttat	taaagctttt	ggcatcttga	300
aacgagcggc	cgctgaagta	aaccaggatt	atggctcttga	tccaaaaatt	gctaatagcaa	360
taatgaangc	agcanatgaa	gnanctgaag	gtaaataaaa	tgat		404

<210> 640
 <211> 401
 <212> DNA
 <213> Homo sapien

<400> 640						
ggccaagtca	gcttcttctg	agagagtctc	tagaagacat	gatgctacac	tcagcttttg	60
gtctctgcct	cttactcgtc	acagtttctt	ccaacottgc	cattgcaata	aaaaaggaaa	120
agaggcctcc	tcagacactc	tcaagaggat	ggggagatga	catcacttgg	gtacaaactt	180
atgaagaagg	tctcttttat	gctcaaaaaa	gtaagaagcc	attaatgggt	attcatcacc	240
tggaggattg	tcaatactct	caagcactaa	agaaagtatt	tgcccaaat	gaagaaatac	300
aagaaatggc	tcagaataag	ttcatcatgc	taaaccttat	gcatgaaacc	actgataaga	360
atttatcacc	tgatgggcaa	tatgtgccta	gaatcatggt	t		401

<210> 641
 <211> 404
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(404)
 <223> n = A,T,C or G

<400> 641						
ggctcatcgc	agacaccagc	cgacctaccg	gctttcggac	catggccaac	ctcgagcgta	60
ccttcattgc	catcaagcca	gatggcgtgc	agcgcgccct	ggtgggcgag	atcatcaaac	120
gattcgagca	gaaggggttc	cgctggtggc	catgaagtgc	cttcgggctn	ttgaagaaca	180
cctgaacagc	attacatcga	ccctgaacga	accgtccttt	ctttccnggg	gctggtgaaa	240
tacatgaact	tnggggccat	ngtgggcatg	ggcttgggaa	ggggntcaat	ggtggtggaa	300
aaccggcccg	aatgattctt	ggggggaana	acaaatccaa	nttgatttaa	aaaccaggca	360
nccattnccg	ggggggattt	tnttgnnttt	naaanttggg	nagg		404

<210> 642
 <211> 366
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(366)
 <223> n = A,T,C or G

<400> 642						
tgcaggtcga	cactagtggg	tccaantaat	tcggcacgag	gagcaaaggc	acatcttaaa	60
tggcagggga	actacccttg	atacaaccat	cagatctcat	gagactcact	gtcatgagaa	120
cagcagcatg	ggggtaacgg	ccccatgatt	caattacctc	ccactgagtc	cctcccacga	180
catatgggga	ttatgggagc	tacaattcaa	gatgagattt	aggtggggac	acagccaaac	240
catttcaata	gcataacacc	aaaaaagggt	atagagcagt	aaaagggttg	atggaccatg	300
catcagtaat	aataataata	attataagtg	atctttaaac	attcatcagg	tgccaagcct	360
cgtgcc						366

<210> 643
 <211> 403

<212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(403)
 <223> n = A,T,C or G

<400> 643
 gtgacctgat gagacagtta attatggcca atccacaaat gcagcagttg atacagagaa 60
 atccagaaat tagtcatatg ttgaataatc cagatataat gagacaaacg ttggaacttg 120
 ccaggaatcc acaatgatgc agganaagat gaagaaccaa gacccaactt tnancaacct 180
 aaaaannntt ccnagggggn ttnanngttt nanggncttt ntccccaant tttnagganc 240
 cattgttnat ngntgnncaa aannagttnng gnggaaatcc ttttgtttcc ttgggganac 300
 atacatcctt tggngaaggt agtcaacctt cccgtncana aattagaaat cccctnccca 360
 atccntgggn tccacaaact tcccaaagtt antnagtttc cac 403

<210> 644
 <211> 403
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(403)
 <223> n = A,T,C or G

<400> 644
 ggggatgaca gccctaacaa gaactgtttt tgaatcgttg tgcagctcca ggcaatagag 60
 tatgtgaagc gatttcagta gaatcactta ctcactctaa aagaaaacat tattccnant 120
 accntccttn nnattncctt ntntaannn aaactnang ntntntgnnt gttannnggn 180
 atnancctta aanntgcant ntnttttant cctccaaatn tttttcgggt tcntntgaga 240
 ancaccanaa nctttctttc ccttntcttc agtanttgca anagganacc tccnttnagg 300
 actggentag ngaacgtaat ccatgcttta actgccatta aacagcccca tgggttgatt 360
 tttttttttt ttngagtngg ctttccaaaa ccttgtcaaa aac 403

<210> 645
 <211> 405
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(405)
 <223> n = A,T,C or G

<400> 645
 gcgccttcca ggccgcactc cagagccaaa agagctccat ggcggcggcg gccaaagccca 60
 acaacctttc cctggtggtg cacggaccgg gggacttgcg cctggagaac tatcctatcc 120
 ctgaaccagg cccaaatgag gtcttgctga ggatgcattc tgttggaatc ttgtggctta 180
 aatgtcacta ctgggagtat gggcnaattg ggaattttat tnggaaaaac ccatgggggtt 240
 ggacatgaag ttcggacagt cnaaaaagtg ggatcatcgg naaagacctt aaaccagggtg 300
 atcggttgca tcacctgggc tcccgaaaaa tgataattnt gaagatggcc atacatntgt 360
 accttcatnt tttntggcac cccccnata cggaaacttg cggtt 405

<210> 646
 <211> 412
 <212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(412)

<223> n = A,T,C or G

<400> 646

ggaacccagt	gcctgcagcc	atggctcccg	gccagctcgc	cttatttagt	gtctctgaca	60
aaaccggcct	tgtggaattt	gcaagaaacc	tgaccgctct	tggtttgaat	ctggctcgctt	120
ccggagggac	tgcaaaagct	ctcagggatg	ctggctctggc	agtcagagat	gtctctgagt	180
tgacgggatt	tcctgaaatg	ttggggggac	gtgtgaaaac	tttgcctcct	gcagtccatg	240
ctggaatcct	agctcgtaat	attccagaag	ataatgctga	catggccaga	cttgatttca	300
atcttataag	agttgttgcc	tgcaatctct	atccctttgt	aaagacaagt	ggcttctcca	360
ggtgtaactg	ttgaggangc	tgtggggagca	aattgacatt	ggtggggagta	ac	412

<210> 647

<211> 412

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(412)

<223> n = A,T,C or G

<400> 647

ggtcgccccg	cgccccagcc	cgcccgcggc	gctccccgcc	tccccgctag	cgcanncggc	60
ngntctgntc	ggctgattnc	cagctatgan	acaaggagaa	tgaaaatatg	aagaaaaagc	120
tgaacaaaaa	agttanntag	ctaaaacagg	acttgcagnn	ttnaaaacag	gtccttgatg	180
gcaaagaaga	ggttgagaaa	caacntagag	aaaatattna	aantctaaat	tccatggtag	240
aacgcccaaga	gaaagatctt	ggccgtcttc	aggtagacat	ggatgaactt	gaagaaaaga	300
accgaagtat	tcangctgcc	tgatagtgcc	atacaaagaa	cttactgac	tttacaaagc	360
caatgctgca	aangatagtg	aggnacanga	agctgctctn	accgtgaaat	ga	412

<210> 648

<211> 413

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(413)

<223> n = A,T,C or G

<400> 648

ggtcgccccg	cgccccagcc	cgcccgcggc	gctccccgcc	tccccgctag	cgagccccgg	60
cggctctgcc	cggctgccgc	ccggcatgaa	catcatggat	ttcaacgtga	agaaacttgg	120
cgggcccagc	gggcaccttt	tcttaagccg	gcccgtgnaa	tttanaaaaa	aaaaacttgg	180
ncaagcaaaa	aaaaanaaaa	ttggnccctt	ncttgaaaan	cttcttaaca	aaacttaatg	240
gtccaaaaata	tgaccgaaa	aaaaaatgna	ncaaaccnna	ntgnttttgc	acccaatnch	300
aatnccnnga	nnaaaaaaat	tgnttattaa	aaacntgaat	aaaaancccc	aannctatna	360
acaacccccga	acttttttga	cnatntntna	ntgatnnnng	aacntaattt	ggc	413

<210> 649

<211> 409

<212> DNA

<213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(409)
 <223> n = A,T,C or G

<400> 649
 actagtggat ccaaagantt cggcacgagg gcanggtgtn cgggcgggaa ggggcacggg 60
 cacccccgcg gtcctcggga ggctagagat catggaaggg aagtgggtgc tgtgtatgtt 120
 actggtgctt ggaactgcta ttgttgaggc tcatgatgga catgatgatg atgtgattga 180
 tattgaggat gaccttgacg atgtcattga agaggtagaa gactcaaaac cagataccac 240
 tgctctcctt tcatctccca aggttactta caaagctcca nttccaacag gggaagtata 300
 ttttgctgat tcttttgaca gaggaactct gtcagggtgg attttatnca nagccaanaa 360
 agacnatccn atgatgaaaa ttgccnaata tnatggaaaa gtgggaggt 409

<210> 650
 <211> 413
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(413)
 <223> n = A,T,C or G

<400> 650
 ggcttgagga cgggcaacat ggtgcggtcg gggaataagg cagctgttgt gctgtgtatg 60
 gacgtgggct ttaccatgag taactccatt cctgggtatag aatccccatt tgaacaagca 120
 aagaaggatga taaccatggt tgtacagcga cagggtgttg ctgagaacaa ggatgagatt 180
 gctttagtcc tgtttggtac agatggcact gacaatcccc tttctgggtg ggatcagtat 240
 cagaacatca cagtgcacag acatctgatg ctaccagatt ttgatttgct ggaggacatt 300
 gaaagcaaaa tccaaccagg ttctcaacag gctgacttcc tggatgcaact aatcgtgagc 360
 atggatgtga ttcacatgaa acaataggaa agaagtttga gaanaagcat att 413

<210> 651
 <211> 441
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(441)
 <223> n = A,T,C or G

<400> 651
 ctagtggatc caaaganttc ggcacgaggc aaccagtgc actgcaggga gaaatgctct 60
 tcacctggct gctaagtatg gacatgcatt gtgcctacaa aaacttctac agtacaattg 120
 tcccactgag catgcagacc tgcagggaag aactgcactt cacgatgccg caatggcaga 180
 ttgtccttct agcatacagc tgctttgtga ccatggggcc totgtgaatg ccaaagatgt 240
 agacgggcgg acaccacttg ttctggctac tcagatgagt aggccaaaca tgtgtcaact 300
 gctgatagat agaggagcgg atgttaattc cagagacaaa caaaacagaa ctgccctcat 360
 gctagggttc gaatatggtt gcagagatgc agtagaagtc ttaattaaaa atgggtgctg 420
 atataagctt gctggatgcg c 441

<210> 652
 <211> 412
 <212> DNA
 <213> Homo sapien

<400> 652

gcttctctct	cctgtgcaaa	atggcaactc	ttaaggaaaa	actcattgca	ccagttgcgg	60
aagaagaggc	aacagttcca	aacaataaga	tcaactgtagt	gggtgttgga	caagttggta	120
tggcgtgtgc	tatcagcatt	ctgggaaagt	ctctggctga	tgaacttgct	cttgtggatg	180
ttttggaaga	taagcttaaa	ggagaaatga	tggatctgca	gcatgggagc	ttatttcttc	240
agacacctaa	aattgtggca	gataaagatt	attctgtgac	cgccaattct	aagattgtag	300
tggttaactgc	aggagtcccg	tcagcaagaa	ggggagagtc	ggctcaatct	ggtgcagaga	360
aatggtaatg	tcttcaaatt	cattatttct	cagatccgca	agtacagtcc	tg	412

<210> 653

<211> 414

<212> DNA

<213> Homo sapien

<400> 653

gccagttcaa	gtccaccctg	cgggacgccg	atagggagcg	cgaggccatc	ctggccatcc	60
acaaggaggc	ccagaggatc	gctgagagca	accacatcaa	gctgtcgggc	agcaaccctt	120
acaccaccgt	caccccgcaa	atcatcaact	ccaagtggga	gaaggtgcag	cagctggtgc	180
caaaacggga	ccatgccctc	ctggaggagc	agagcaagca	gcagtccaac	gagcacctgc	240
gccgccagtt	cgccagccag	gccaatgttg	tggggccctg	gatccagacc	aagatggagg	300
agatcgggcg	catctccatt	gagatgaacg	ggaccctgga	ggaccagctg	agccacctga	360
agcagtatga	acgcagcatc	gtggactaca	aagcccaacc	tggaccttgt	tgga	414

<210> 654

<211> 404

<212> DNA

<213> Homo sapien

<400> 654

gcatggcgga	gctgacggtg	gaggttcgcg	gctccaacgg	ggctttctac	aagggattta	60
tcaaagatgt	ccacgaagac	tccctcacag	ttgtttttga	aaataattgg	caaccagaac	120
gccaggttcc	gtttaatgaa	gtgcgattac	caccaccacc	tgatataaaa	aaagaaatta	180
gtgaaggaga	tgaagtagag	gtatatccaa	gagcaaatga	ccaagagcca	tgtggatggg	240
ggctggctaa	agttcggatg	atgaaaggcg	agttttatgt	cattgaatat	gctgcttggt	300
atgccactta	caatgaaata	gtcacatttg	aacgacttcg	gcctgtcaat	caaaataaaa	360
ctgtcaaaaa	aaataccttc	tttaagtgca	cagtggatgt	tcct		404

<210> 655

<211> 402

<212> DNA

<213> Homo sapien

<400> 655

gggcaagatc	accattagca	aatggaaatt	acatttgaaa	gccattagac	ttataggtga	60
tgcaagcatc	taagagagag	gttaatcaca	ctatagaggc	ataagtggta	tcagttttca	120
tttttcta	tgtttaaa	actgttttata	ccagtgtttg	caagtaattg	ggtgttagct	180
tgagatgggt	aaaggtgggt	tggggaggga	cttcgttgta	atggttttgc	tgtaaaaaat	240
gtttccaact	ccgctgaaat	gttgctgaaa	agcatggtgc	tggtaacagt	tcaacaatcc	300
gtggctgctc	attcttgcc	actttactct	cccactgaag	caggttagcg	tttgaagggt	360
gtatggaaaa	cctgcatgcc	tgttcaattc	ttttgtttct	tc		402

<210> 656

<211> 416

<212> DNA

<213> Homo sapien

<400> 656

```

gaatcggcac gaggtcagcc gcgaggtgtc cggcatcaag gccgcctacg aggccgagct      60
cggggatgcc cgcaagaccc ttgactcagt agccaaggag cgcgcccgcc tgcagctgga      120
gctgagcaaa gtgcgtgagg agtttaagga gctgaaagcg cgcaatacca agaaggaggg      180
tgacctgata gctgctcagg ctcggtgaa ggacctggag gctctgctga actccaagga      240
ggccgcactg agcactgctc tcagtgaaga gcgcacgctg gagggcgagc tgcattgatct      300
gcggggccag gtggccaagc ttgaggcagc cctaggtgag gccaagaagc aacttcagga      360
tgagatgctg cggcgggtgg atgtgagaa caggctgcag accatgaagg aggaac      416

```

<210> 657

<211> 402

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(402)

<223> n = A,T,C or G

<400> 657

```

gctccaagca gacacaatgg taagaatggt gcctgtcctg ctgtctctgc tgctgcttct      60
gggtcctgct gtcccccagg agaaccaaga tggctcgttac tctctgacct atatctacac      120
tgggctgtcc aagcatgttg aagacgtccn cgnntttcag gcccttggct cactcaatga      180
cctccagttc tttagatata acagtaaaga caggaaagtct cagcccatgg gactctggag      240
acaggtggaa ggaatggagg attggaagca ggacagccaa cttcagaagg ccaggggagga      300
catctttatg gagaccctga aagacattgt ggagtattac aacgacagta acgggtctca      360
cgtattgcag ggaaggtttg gtttgtgaga tcgagaataa ca      402

```

<210> 658

<211> 404

<212> DNA

<213> Homo sapien

<400> 658

```

gcaagacgcc acttccccta tcatagaaga gcttatcacc tttcatgatc acgccctcat      60
aatcattttc cttatctgct tcctagtcct gtatgccctt ttcctaacac tcacaacaaa      120
actaactaat actaacatct cagacgtcca ggaaatagaa accgttgaaac tatcctgccc      180
gccatcatcc tagtcctcat cgccctccca tcctacgca tcctttacat aacagacgag      240
gtcaacgatc cctcccttac catcaaatca attggccacc aatgggtactg aacctacgag      300
tacaccgact acggcgagct aatcttcaac tcctacatac ttccccatt attcctagaa      360
ccaaggcgga cctgcgactc cttgacgttg acaatcgagt agta      404

```

<210> 659

<211> 411

<212> DNA

<213> Homo sapien

<400> 659

```

ggcacgaggg tgcgcgttac tccgaggaga taccagtcgg tagaggagaa gtcgaggtta      60
gagggaactg ggaggcactt tgctgtctgc aatcgaagtt gaggggtgcaa aaatgcagag      120
taataaaaact ttaacttg agaaagcaaaa ccatctccaa gaaaagcatc atcaacatca      180
ccaccagcag cagcaccacc agcagcaaca gcagcagccg ccaccaccgc caatacctgc      240
aaatgggcaa caggccagca gccaaaatga aggcttgact attgacctga agaattttag      300
aaaaccagga gagaagacct tcacccaacg aagccgtctt tttgtgggaa atcttcctcc      360
cgacatcact gaggaagaaa tgaggaaact atttgagaaa tatggaaagg c      411

```

<210> 660

<211> 412

<212> DNA

<213> Homo sapien

<400> 660

ggcacgaggg	ggatttgggt	cgcagttctt	gtttgtggat	cgctgtgatc	gtcacttaac	60
aatgcagatc	ttcgtgaaga	ctctgactgg	taagaccatc	accctcgagg	ttgagcccag	120
tgacaccatc	gagaatgtca	aggcaaagat	ccaagataag	gaaggcatcc	ctcctgacca	180
gcagaggctg	atctttgctg	gaaaacagct	ggaagatggg	cgcaccctgt	ctgactacaa	240
catccagaaa	gagtcacccc	tgcacctggg	gctccgtctc	agaggtggga	tgcaaattctt	300
cgtgaagaca	ctcactggca	agaccatcac	ccttgaggtc	gagcccagtg	acaccatcga	360
gaacgtcaaa	gcaaagatcc	aggacaagga	aggcattcct	cctgaccagc	ag	412

<210> 661

<211> 411

<212> DNA

<213> Homo sapien

<400> 661

ggcacgaggg	gagatcgatg	atcttgccag	taatgtagag	acagtgtcta	aggccaaggg	60
aaacctcgag	aagatgtgcc	gcaccctgga	ggaccaggtg	agtgaagctga	agtcaaagga	120
ggaggaacag	cagcgactga	tcaacgacct	gacaacccag	agaggacgac	tgacagaccga	180
atccggtgaa	ttttccaggc	agcttgatga	gaaggaagcg	ctggtatctc	agttatcaag	240
gggcaaacag	gcattcactc	aacagattga	ggagctaaag	aggcaacttg	aagaggaagt	300
aaaggccaag	aacgcgctgg	cccacgcctt	gcagtcctcc	cgccatgact	gtgacctgct	360
gcgggaacag	tacgaggagg	agcaggagtc	taaggctgaa	ctgcagaggg	c	411

<210> 662

<211> 414

<212> DNA

<213> Homo sapien

<400> 662

ggcacgaggg	tcacaggacc	agccactagc	gcagcctcga	gcgatggcct	atgtccccgc	60
accgggctac	cagcccacct	acaacccgac	gctgccttac	taccagccca	tcccggggcg	120
gctcaacgtg	ggaatgtctg	tttacatcca	aggagtggcc	agcgagcaca	tgaagcgggt	180
cttcgtgaac	tttgtggttg	ggcaggatcc	gggctcagac	gtcgccttcc	acttcaatcc	240
gcggtttgac	ggctgggaca	aggtggtctt	caacacgttg	cagggcgggg	agtggggcag	300
cgaggagagg	aagaggagca	tgcccttcaa	aaagggtgcc	gcctttgagc	tggtcttcat	360
agtcttggtc	gagcactaca	agtggttggt	aaatggaaat	cccttctatg	agta	414

<210> 663

<211> 414

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(414)

<223> n = A,T,C or G

<400> 663

gcggcgctcc	ttcctcctcg	gctcgcgtct	cactcagtg	accttctagt	cccgccatgg	60
ccgctctcac	ccgggacccc	cagttccaga	agctgcagca	atggtaccgc	gagcaccgct	120
ccgagctgaa	cctgcgccgn	ctcttcgatg	ccaacaagga	ccgcttnaac	cacttcagct	180
tgacctcaa	caccaaccat	gggcataatc	tgngggatta	ctccaagaac	ctggtgacgg	240
aggacgtgat	gcggatgctg	gtggacttgg	ccaagtccag	gggcgtggag	gccgaccggg	300
agcggatggt	caatggtgan	aagatcaact	acacccgang	gtcgagccgt	gctgcacgtg	360
gctctgcgga	accggttcaa	acacacccat	nctgggagac	ggcaangatg	tgat	414

<210> 664
 <211> 411
 <212> DNA
 <213> Homo sapien

<400> 664
 ggcacgaggg ttagatgccc tgccatgctc cacaaccatc aacaggaacc gcatggggccg 60
 agacaagaag agaacccttc ccctttgctt tgatgaccat gaccagctg tgatccatga 120
 gaacgcattc cagcccaggg tgctgggtccc catccgctgg acatggagat cgatgggcag 180
 aagctgcgag acgccccttc ctggaacatg aatgagaagt tgatgacgcc tgagatgttt 240
 tcagaaatcc tctgtgacga tctggatttg aaccgcgtga cgtttgtgcc agccatcgcc 300
 tctgccatca gacagcagat cgagtcctac cccacggaca gcatcctgga ggaccagtca 360
 gaccagcgcg tcatcatcaa gctgaacatc catgtgggaa acatttcctt g 411

<210> 665
 <211> 409
 <212> DNA
 <213> Homo sapien

<400> 665
 ggcacgaggg cgaatcgag cttctgagac caggggttct ccgtccgtgc tccgcctcgc 60
 catgacttcc tacagctatc gccagtcgtc ggccacgtcg tccttcggag gcctgggcgg 120
 cggctccgtg cgttttgggc cgggggtcgc ttttcgcgcg cccagcattc acggggggtc 180
 cggcgccgcg ggcttatccg tgtcctccgc ccgctttgtg tcctcgtcct cctcgggggg 240
 ctacggcgcc ggcctacggc gcgtcctgac cgcgtccgac gggctgctgg cgggcaacga 300
 gaagctaacc atgcagaacc tcaacgaccg cctggcctcc tacctggaca aggtgcgcgc 360
 cctggaggcg gccaacggcg agctagaggt gaagatccgc gactggtac 409

<210> 666
 <211> 411
 <212> DNA
 <213> Homo sapien

<400> 666
 ggcacgaggt gagctgaacc aagaaggagg aggggggtcgg gcctccgagg aaggcctagc 60
 tgctgctgct gccaggaatt ccaggttgga ggggcggcaa cctcctgcca gccttcaggc 120
 cactctcctg tgccctgccag aagagacaga gcttgaggag agcttgagga gagcaggaaa 180
 gcagcctccc ccgttgcccc tctggatcca ctgcttaaat acggacgagg acagggcctt 240
 gtctcctcag cttcaggcac caccactgac ctgggacagt gaatcgacaa tgccgtcttc 300
 tgtctcgtgg ggcattcctc tgctggcagg cctgtgctgc ctgggtccctg tctccctggc 360
 ttaggatccc cagggagatg ctgcccagaa gacagataca tcccacatg a 411

<210> 667
 <211> 412
 <212> DNA
 <213> Homo sapien

<400> 667
 ggcacgagga ttatccagaa ccttgagaaa gacagacaaa aattgggtcag cagccaggag 60
 caagacagag aacagttaat tcagaagctt aattgtgaaa aagatgaagc tattcagact 120
 gccctaaaag aatttaaat ggagagagaa gttgttgaga aagagttatt agaaaaagtt 180
 aaacatcttg agaatcaaat agcaaaaagt cctgccattg actctaccag aggagattct 240
 tcaagcttag ttgctgaact tcaagaaaag cttcaggaag aaaaagctaa gtttctagaa 300
 caacttgaag agcaagaaaa aagaaagaat gaagaaatgc aaaatgttcg aacatctttg 360
 attgcggaac aacagaccaa ttttaacact gttttaacaa gagagaaaaat ga 412

<210> 668
 <211> 411.

<212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(411)
 <223> n = A,T,C or G

<400> 668
 ggacacgaggg tctngggcgc gctcananna gatnatcaac ctgcgagagg tcagcaccng 60
 cttccncttg ncacccgggg agtannnnntt aattgtgaan aagatgaaag ctattcagac 120
 ttgncctnnn ataatttnaa ttgngagga gaanntnttn tnatcaaaag ttnttttana 180
 aaaaantann ncatctnnn ntaatnaaag tattacanna ntactgccn attgacttta 240
 ccanaagaga angcttcnng gctttgttgc tgaancctta tnaaaaggnt atggggantn 300
 nanaaaant aantnnntn ganntaatct ttgnttcag cttatcatnn ttngntatna 360
 aannaganaa tanttctaata nntgttttc gaatctatna tnnctnnntt t 411

<210> 669
 <211> 412
 <212> DNA
 <213> Homo sapien

<400> 669
 ggacacgaggg cagagaaacc agattctctc tcagcagtta cagcagatgg aagctgagca 60
 taatactttg aggaacactg tggaaacaga aagagaggag tccaagattc tactggaaaa 120
 gatggaactt gaagtggcag agagaaaatt atccttccat aatctgcagg aagaaatgca 180
 tcatctttta gaacagtttg agcaagcagg ccaagcccag gctgaactag agtctcggtta 240
 tagtgctttg gagcagaagc acaaagcaga aatggaagag aagacctctc atattttgag 300
 tcttcaaaag actggacaag agctgcagtc tgctgtgat gctctaaagg atcaaaattc 360
 aaagcttctc caagataaga atgaacaggc agttcagtca gccagacca tt 412

<210> 670
 <211> 411
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(411)
 <223> n = A,T,C or G

<400> 670
 ggacacgagga gagggacttc cagagaagct ggttataaaa aaccagcaat ttcacaagga 60
 acgagagcag ccaccagat ttgcacagcc tggctccttt gagtatgaat atgccatgcg 120
 ctggaaggca ctcatcgaga tggagaagca gcancaggac caagtggacc gcaacatcaa 180
 ggaggctcgt gagaagctgg agatggagat ggaagctgca cgccatgagc accaggtcat 240
 gctaatagaga caggatttga tgaggcgcca agaagaactt cggaggatgg aagagctgca 300
 caaccaagag gtgcaaaaac gaaagcaact ggagctcagg caggaggaag ancgcaggcg 360
 ccgtgaagaa ganatgcggc ggcagcaaga agaatgatg cggcgacagc a 411

<210> 671
 <211> 411
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(411)

<223> n = A,T,C or G

<400> 671

ggcacgaggg	caacatccag	cctcctgaca	aggtgatccg	ggcggggccc	gcaggaattt	60
tatccccctca	ccggcctcac	actagtatcg	catgtccact	atccagaacc	tccaatcttt	120
cgaccccttt	gctgatgcaa	ctaagggtga	cgacttactn	ccggcagggg	ctgaggatta	180
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tggtagtg	attgaacatc	ctgaatacgg	agagggttatt	cagcttcaag	gtgaccaaag	360
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<210> 672

<211> 409

<212> DNA

<213> Homo sapien

<400> 672

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gaaaaattat	aaccaagcat	aatatagcaa	ggactaacc	ctataccttc	tgcataatga	180
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tacctaagaa	cagctaaaag	agcacacccg	tctatgtagc	aaaatagtgg	gaagatttat	300
aggtagaggg	gacaaaccta	ccgagcctgg	tgatagctgg	ttgtccaaga	tagaatctta	360
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<210> 673

<211> 412

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(412)

<223> n = A,T,C or G

<400> 673

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gaactgatcc	agacagacag	cctggctcct	tagaagttaa	tgggaacaaa	gtaaggaaga	360
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<211> 413

<212> DNA

<213> Homo sapien

<220>

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<222> (1)...(413)

<223> n = A,T,C or G

<400> 674

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agaatcgtat	tggttacagc	tggtagaaaag	gcgaaagagt	ggatggcaac	agtctaattg	180

186

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taggatatgt aatagggaact caacaagcta cccaggggcc cgcatacagt ggtcgagaga 240
caatataccc caatgcatcc ctgctgatcc agaacgtcac ccagaatgac acaggattct 300
ataccctaca agtcataaag tcagatcttg tgaatgaaga agcaaccgga cagttccatg 360
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<210> 675

<211> 411

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(411)

<223> n = A,T,C or G

<400> 675

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tcctgaaatc attgancaaa ttggctgggt agtctgagag caaccttcgt aaagcctttg 360
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<210> 676

<211> 413

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(413)

<223> n = A,T,C or G

<400> 676

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gatgctgceg ggcggtagct ccngcgcccc tccttggtga ctgcttgccg cngcctcac 180
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caggtgctga cagcgcgaga gagcgcnngn cctcaggagc aaggcgaaatg tatgacaaca 300
tgtccacaat ggtgtacata aaggaagaca agttggagaa gcttacacan gatgaaatta 360
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<210> 677

<211> 410

<212> DNA

<213> Homo sapien

<400> 677

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aaaggaaaag aggcctcctc agacactctc aagaggatgg gggagatgac atcacttggg 180
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ttcatcacct ggaggattgt caatactctc aagcactaaa gaaagtattt gcccaaaatg 300
aagaaataca agaaatggct cagaataagt tcatcatgct aaaccttatg catgaaacca 360
ctgataagaa tttatcacct gatgggcaat atgtgcctag aatcatgttt 410

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<210> 678

<211> 410
 <212> DNA
 <213> Homo sapien

<400> 678
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 caacataatt tcttactatg tgagtgagga tctgaaagga taagaaagga gacatttctt 180
 tggatgaaaa ttgctgtgta gagtccttgc ctgacaaaga tggaaagaaa tgcctttttc 240
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 agtggattca agccattcat tctactattc atctgttgaa gctgggcagc cctccaccac 360
 acaaagaagc ccgccagcgt cggaaagaac tccggaagaa gcagctggct 410

<210> 679
 <211> 410
 <212> DNA
 <213> Homo sapien

<220>
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 <223> n = A,T,C or G

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 tgaatagaga aaacactgat tgataatagg catttttagtg ggctttttta tgntttctgc 360
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<210> 680
 <211> 410
 <212> DNA
 <213> Homo sapien

<400> 680
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<210> 681
 <211> 402
 <212> DNA
 <213> Homo sapien

<400> 681
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402

<210> 682

<211> 401

<212> DNA

<213> Homo sapien

<400> 682

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gagctgtccg	caggcttgtc	caaaaggaaa	catcggaatg	accacttaac	atctacaact	360
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<210> 683

<211> 3255

<212> DNA

<213> Homo sapien

<400> 683

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<210> 684

<211> 2993

<212> DNA

<213> Mus musculus

<400> 684

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<210> 685

<211> 486

<212> PRT

<213> Homo sapien

<400> 685

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Ser Phe Trp Glu Val Gly Asn Tyr Lys Arg Thr Val Lys Arg Ile Asp
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```

```

Asp Gly His Arg Leu Cys Ser Asp Leu Met Asn Cys Leu His Glu Arg
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```

Ala Arg Ile Glu Lys Ala Tyr Ala Gln Gln Leu Thr Glu Trp Ala Arg
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Arg Trp Arg Gln Leu Val Glu Lys Gly Pro Gln Tyr Gly Thr Val Glu
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```

Lys Ala Trp Met Ala Phe Met Ser Glu Ala Glu Arg Val Ser Glu Leu
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His Leu Glu Val Lys Ala Ser Leu Met Asn Asp Asp Phe Glu Lys Ile
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Lys Asn Trp Gln Lys Glu Ala Phe His Lys Gln Met Met Gly Gly Phe
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```

Lys Glu Thr Lys Glu Ala Glu Asp Gly Phe Arg Lys Ala Gln Lys Pro
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```

Trp Ala Lys Lys Leu Lys Glu Val Glu Ala Ala Lys Lys Ala His His
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Ala Ala Cys Lys Glu Glu Lys Leu Ala Ile Ser Arg Glu Ala Asn Ser
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 Lys Ile Glu Lys Cys Lys Gln Asp Val Leu Lys Thr Lys Glu Lys Tyr
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 Glu Lys Ser Leu Lys Glu Leu Asp Gln Gly Thr Pro Gln Tyr Met Glu
 210 215 220
 Asn Met Glu Gln Val Phe Glu Gln Cys Gln Gln Phe Glu Glu Lys Arg
 225 230 235 240
 Leu Arg Phe Phe Arg Glu Val Leu Leu Glu Val Gln Lys His Leu Asn
 245 250 255
 Leu Ser Asn Val Ala Gly Tyr Lys Ala Ile Tyr His Asp Leu Glu Gln
 260 265 270
 Ser Ile Arg Ala Ala Asp Ala Val Glu Asp Leu Arg Trp Phe Arg Ala
 275 280 285
 Asn His Gly Pro Gly Met Ala Met Asn Trp Pro Gln Phe Glu Glu Trp
 290 295 300
 Ser Ala Asp Leu Ile Arg Thr Leu Ser Arg Arg Glu Lys Lys Lys Ala
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 Thr Asp Gly Phe Thr Leu Thr Gly Ile Asn Gln Thr Gly Asp Gln Phe
 325 330 335
 Leu Pro Ser Lys Pro Ser Ser Thr Leu Asn Val Pro Ser Asn Pro Ala
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 355 360 365
 Asp Thr Gly Ser Thr Val Ser Glu Lys Glu Asp Ile Lys Ala Lys Asn
 370 375 380
 Val Ser Ser Tyr Glu Lys Thr Gln Ser Tyr Pro Thr Asp Trp Ser Asp
 385 390 395 400
 Asp Glu Ser Asn Asn Pro Phe Ser Ser Thr Asp Ala Asn Gly Asp Ser
 405 410 415
 Asn Pro Phe Asp Asp Asp Ala Thr Ser Gly Thr Glu Val Arg Val Arg
 420 425 430
 Ala Leu Tyr Asp Tyr Glu Gly Gln Glu His Asp Glu Leu Ser Phe Lys
 435 440 445
 Ala Gly Asp Glu Leu Thr Lys Met Glu Asp Glu Asp Glu Gln Gly Trp
 450 455 460
 Cys Lys Gly Arg Leu Asp Asn Gly Gln Val Gly Leu Tyr Pro Ala Asn
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 Tyr Val Glu Ala Ile Gln

485

<210> 686
 <211> 1571
 <212> DNA
 <213> Homo sapiens

<400> 686
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 tgtactgtaa gataccatct tttcaaagag aaacgtttta aaccttttaa aaaaaaaaaa 1560
 aaaaaaaaaa a 1571

<210> 687
 <211> 73
 <212> PRT
 <213> Homo sapiens

<400> 687
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 20 25 30
 Asn Leu Cys Leu Phe Gln Leu Leu Ile His His Ala Lys Arg Asp Tyr
 35 40 45
 Pro Val Lys Asn Tyr Gln Ile His His Leu Gln Phe Gln Gln Thr Thr
 50 55 60
 Ser Val Ser Ser Lys Ile Pro Phe Asp
 65 70

<210> 688
 <211> 21
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> PCR primer

<400> 688
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<210> 689
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<220>
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<400> 689
 cacaggaaac agctatgacc 20

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 tcggagttgg aggacaacat agtggttgaa gatctgaggg attactggcc tggccctggc 240
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 gccatcacca tcattgctct ctgctgcctt cccttagtga gtctgcttct ctctggagtg 840
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<212> PRT
<213> Homo sapiens
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<400> 692
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Lys Val Leu Asn Lys Gly Phe Gln Ser Ser Gln Ala Leu Arg Val Cys
20 25 30

Asn Asn Tyr Trp Ile Arg Glu Asn Pro Asn Leu Asn Ser Thr Gln Glu
 35 40 45
 Val Asn Glu Leu Leu Leu Gly Met Ala Ser Gln Ile Ser Glu Leu Glu
 50 55 60
 Asp Asn Ile Val Val Glu Asp Leu Arg Asp Tyr Trp Pro Gly Pro Gly
 65 70 75 80
 Lys Phe Ser Arg Thr Asp Tyr Val Ala Ser Ser Ile Gln Arg Gly Arg
 85 90 95
 Asp Met Gly Leu Pro Ser Tyr Ser Gln Ala Leu Leu Ala Phe Gly Leu
 100 105 110
 Asp Ile Pro Arg Asn Trp Ser Asp Leu Asn Pro Asn Val Asp Pro Gln
 115 120 125
 Val Leu Glu Ala Thr Ala Ala Leu Tyr Asn Gln Asp Leu Ser Gln Leu
 130 135 140
 Glu Leu Leu Leu Gly Gly Leu Leu Glu Ser His Gly Asp Pro Gly Pro
 145 150 155 160
 Leu Phe Ser Ala Ile Val Leu Asp Gln Phe Val Arg Leu Arg Asp Gly
 165 170 175
 Asp Arg Tyr Trp Phe Glu Asn Thr Arg Asn Gly Leu Phe Ser Lys Lys
 180 185 190
 Glu Ile Glu Asp Ile Arg Asn Thr Thr Leu Arg Asp Val Leu Val Ala
 195 200 205
 Val Ile Asn Ile Asp Pro Ser Ala Leu Gln Pro Asn Val Phe Val Trp
 210 215 220
 His Lys Gly Ala Pro Cys Pro Gln Pro Lys Gln Leu Thr Thr Asp Gly
 225 230 235 240
 Leu Pro Gln Cys Ala Pro Leu Thr Val Leu Asp Phe Phe Glu Gly Ser
 245 250 255
 Ser Pro Gly Phe Ala Ile Thr Ile Ile Ala Leu Cys Cys Leu Pro Leu
 260 265 270
 Val Ser Leu Leu Leu Ser Gly Val Val Ala Tyr Phe Arg Gly Arg Glu
 275 280 285
 His Lys Lys Leu Gln Lys Lys Leu Lys Glu Ser Val Lys Lys Glu Ala
 290 295 300
 Ala Lys Asp Gly Val Pro Ala Met Glu Trp Pro Gly Pro Lys Glu Arg
 305 310 315 320
 Ser Ser Pro Ile Ile Ile Gln Leu Leu Ser Asp Arg Cys Leu Gln Val
 325 330 335
 Leu Asn Arg His Leu Thr Val Leu Arg Val Val Gln Leu Gln Pro Leu

340	345	350
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355	360	365
Leu Leu Lys Ile Pro Lys Glu Tyr Asp Leu Val Leu Leu Phe Ser Ser		
370	375	380
Glu Glu Glu Arg Gly Ala Phe Val Gln Gln Leu Trp Asp Phe Cys Val		
385	390	395
Arg Trp Ala Leu Gly Leu His Val Ala Glu Met Ser Glu Lys Glu Leu		
	405	410
		415
Phe Arg Lys Ala Val Thr Lys Gln Gln Arg Glu Arg Ile Leu Glu Ile		
	420	425
		430
Phe Phe Arg His Leu Phe Ala Gln Val Leu Asp Ile Asn Gln Ala Asp		
	435	440
		445
Ala Gly Thr Leu Pro Leu Asp Ser Ser Gln Lys Val Arg Glu Ala Leu		
	450	455
		460
Thr Cys Glu Leu Ser Arg Ala Glu Phe Ala Glu Ser Leu Gly Leu Lys		
	465	470
		475
Pro Gln Asp Met Phe Val Glu Ser Met Phe Ser Leu Ala Asp Lys Asp		
	485	490
		495
Gly Asn Gly Tyr Leu Ser Phe Arg Glu Phe Leu Asp Ile Leu Val Val		
	500	505
		510
Phe Met Lys Gly Ser Pro Glu Asp Lys Ser Arg Leu Met Phe Thr Met		
	515	520
		525
Tyr Asp Leu Asp Glu Asn Gly Phe Leu Ser Lys Asp Glu Phe Phe Thr		
	530	535
		540
Met Met Arg Ser Phe Ile Glu Ile Ser Asn Asn Cys Leu Ser Lys Ala		
	545	550
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Gln Leu Ala Glu Val Val Glu Ser Met Phe Arg Glu Ser Gly Phe Gln		
	565	570
		575
Asp Lys Glu Glu Leu Thr Trp Glu Asp Phe His Phe Met Leu Arg Asp		
	580	585
		590
His Asp Ser Glu Leu Arg Phe Thr Gln Leu Cys Val Lys Gly Gly Gly		
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Gly Gly Gly Asn Gly Ile Arg Asp Ile Phe Lys Gln Asn Ile Ser Cys		
	610	615
		620
Arg Val Ser Phe Ile Thr Arg Thr Pro Gly Glu Arg Ser His Pro Gln		
	625	630
		635
Gly Leu Gly Pro Pro Ala Pro Glu Ala Pro Glu Leu Gly Gly Pro Gly		
	645	650
		655

Leu Lys Lys Arg Phe Gly Lys Lys Ala Ala Val Pro Thr Pro Arg Leu
 660 665 670
 Tyr Thr Glu Ala Leu Gln Glu Lys Met Gln Arg Gly Phe Leu Ala Gln
 675 680 685
 Lys Leu Gln Gln Tyr Lys Arg Phe Val Glu Asn Tyr Arg Arg His Ile
 690 695 700
 Val Cys Val Ala Ile Phe Ser Ala Ile Cys Val Gly Val Phe Ala Asp
 705 710 715 720
 Arg Ala Tyr Tyr Tyr Gly Phe Ala Leu Pro Pro Ser Asp Ile Ala Gln
 725 730 735
 Thr Thr Leu Val Gly Ile Ile Leu Ser Arg Gly Thr Ala Ala Ser Val
 740 745 750
 Ser Phe Met Phe Ser Tyr Ile Leu Leu Thr Met Cys Arg Asn Leu Ile
 755 760 765
 Thr Phe Leu Arg Glu Thr Phe Leu Asn Arg Tyr Val Pro Phe Asp Ala
 770 775 780
 Ala Val Asp Phe His Arg Trp Ile Ala Met Ala Ala Val Val Leu Ala
 785 790 795 800
 Ile Leu His Ser Ala Gly His Ala Val Asn Val Tyr Ile Phe Ser Val
 805 810 815
 Ser Pro Leu Ser Leu Leu Ala Cys Ile Phe Pro Asn Val Phe Val Asn
 820 825 830
 Asp Gly Ser Lys Leu Pro Gln Lys Phe Tyr Trp Trp Phe Phe Gln Thr
 835 840 845
 Val Pro Gly Met Thr Gly Val Leu Leu Leu Leu Val Leu Ala Ile Met
 850 855 860
 Tyr Val Phe Ala Ser His His Phe Arg Arg Arg Ser Phe Arg Gly Phe
 865 870 875 880
 Trp Leu Thr His His Leu Tyr Ile Leu Leu Tyr Ala Leu Leu Ile Ile
 885 890 895
 His Gly Ser Tyr Ala Leu Ile Gln Leu Pro Thr Phe His Ile Tyr Phe
 900 905 910
 Leu Val Pro Ala Ile Ile Tyr Gly Gly Asp Lys Leu Val Ser Leu Ser
 915 920 925
 Arg Lys Lys Val Glu Ile Ser Val Val Lys Ala Glu Leu Leu Pro Ser
 930 935 940
 Gly Val Thr Tyr Leu Gln Phe Gln Arg Pro Gln Gly Phe Glu Tyr Lys
 945 950 955 960

Ser	Gly	Gln	Trp	Val	Arg	Ile	Ala	Cys	Leu	Ala	Leu	Gly	Thr	Thr	Glu	965	970	975
Tyr	His	Pro	Phe	Thr	Leu	Thr	Ser	Ala	Pro	His	Glu	Asp	Thr	Leu	Ser	980	985	990
Leu	His	Ile	Arg	Ala	Val	Gly	Pro	Trp	Thr	Thr	Arg	Leu	Arg	Glu	Ile	995	1000	1005
Tyr	Ser	Ser	Pro	Lys	Gly	Asn	Gly	Cys	Ala	Gly	Tyr	Pro	Lys	Leu	Tyr	1010	1015	1020
Leu	Asp	Gly	Pro	Phe	Gly	Glu	Gly	His	Gln	Glu	Trp	His	Lys	Phe	Glu	1025	1030	1035
Val	Ser	Val	Leu	Val	Gly	Gly	Gly	Ile	Gly	Val	Thr	Pro	Phe	Ala	Ser	1045	1050	1055
Ile	Leu	Lys	Asp	Leu	Val	Phe	Lys	Ser	Ser	Leu	Gly	Ser	Gln	Met	Leu	1060	1065	1070
Cys	Lys	Lys	Ile	Tyr	Phe	Ile	Trp	Val	Thr	Arg	Thr	Gln	Arg	Gln	Phe	1075	1080	1085
Glu	Trp	Leu	Ala	Asp	Ile	Ile	Gln	Glu	Val	Glu	Glu	Asn	Asp	His	Gln	1090	1095	1100
Asp	Leu	Val	Ser	Val	His	Ile	Tyr	Val	Thr	Gln	Leu	Ala	Glu	Lys	Phe	1105	1110	1115
Asp	Leu	Arg	Thr	Thr	Met	Leu	Tyr	Ile	Cys	Glu	Arg	His	Phe	Gln	Lys	1125	1130	1135
Val	Leu	Asn	Arg	Ser	Leu	Phe	Thr	Gly	Leu	Arg	Ser	Ile	Thr	His	Phe	1140	1145	1150
Gly	Arg	Pro	Pro	Phe	Glu	Pro	Phe	Phe	Asn	Ser	Leu	Gln	Glu	Val	His	1155	1160	1165
Pro	Gln	Val	Arg	Lys	Ile	Gly	Val	Phe	Ser	Cys	Gly	Pro	Pro	Gly	Met	1170	1175	1180
Thr	Lys	Asn	Val	Glu	Lys	Ala	Cys	Gln	Leu	Val	Asn	Arg	Gln	Asp	Arg	1185	1190	1195
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<210> 693

<211> 277

<212> PRT

<213> Homo sapiens

<400> 693

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200

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 35 40 45
 Asn Val Thr Ile Val Thr Ile Leu Ala Glu Thr Thr Ser Asp Asn Glu
 50 55 60
 Lys Thr Val Thr Glu Lys Ile Asn Lys Ala Ile Arg Ser Ser Ser Ser
 65 70 75 80
 Asn Phe Leu Asn Tyr Asp Leu Thr Leu Arg Cys Asp Tyr Tyr Gly Cys
 85 90 95
 Asn Gln Thr Ala Asp Asp Cys Leu Asn Gly Leu Ala Cys Asp Cys Lys
 100 105 110
 Ser Asp Leu Gln Arg Pro Asn Pro Gln Ser Pro Phe Cys Val Ala Ser
 115 120 125
 Ser Leu Lys Cys Pro Asp Ala Cys Asn Ala Gln His Lys Gln Cys Leu
 130 135 140
 Ile Lys Lys Ser Gly Gly Ala Pro Glu Cys Ala Cys Val Pro Gly Tyr
 145 150 155 160
 Gln Glu Asp Ala Asn Gly Asn Cys Gln Lys Cys Ala Phe Gly Tyr Ser
 165 170 175
 Gly Leu Asp Cys Lys Asp Lys Phe Gln Leu Ile Leu Thr Ile Val Gly
 180 185 190
 Thr Ile Ala Gly Ile Val Ile Leu Ser Met Ile Ile Ala Leu Ile Val
 195 200 205
 Thr Ala Arg Ser Asn Asn Lys Thr Lys His Ile Glu Glu Glu Asn Leu
 210 215 220
 Ile Asp Glu Asp Phe Gln Asn Leu Lys Leu Arg Ser Thr Gly Phe Thr
 225 230 235 240
 Asn Leu Gly Ala Glu Gly Ser Val Phe Pro Lys Val Arg Ile Thr Ala
 245 250 255
 Ser Arg Asp Ser Gln Met Gln Asn Pro Tyr Ser Arg His Ser Ser Met
 260 265 270
 Pro Arg Pro Asp Tyr
 275

<210> 694

<211> 157

<212> DNA

<213> Homo sapien

<400> 694
 aaatataaat gatatgttga aaacttaagg aagcaaatgc tacatatatg caatataaaa 60
 tagtaatgtg atgctgatgc tgtaaccaa agggcagaat aaataagcaa aatgccaaaa 120
 ggggtcttaa ttgaaatgaa aatttaattt tgttttt 157

<210> 695
 <211> 241
 <212> DNA
 <213> Homo sapien

<400> 695
 ctggcccgac ctctggcctc ctcttccttg gctgaatgta aatatttacc agcattttaga 60
 aaaaaggaga aaaaagacag aactaaaccg gtttaggaaa aagggaccga gggacagcag 120
 tggttaagta atccactgag gacctgaagg ggaaaatgga cttacctttc tcatatactt 180
 ggcttggtta ggacactggg tgccagacag ccttctgagg ggattttctt tctaaatgag 240
 g 241

<210> 696
 <211> 188
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(188)
 <223> n = A,T,C or G

<400> 696
 gcccatgatg ncagagctgg aagagaggnn acgtcagcag aggggccacc tccatttgnt 60
 gnagacaagc atagatggga ttctggctga tgtgaagaac ttggagaaca ttagggacaa 120
 cctgccccca ggctgctaca ataccagggc tcttgagcaa cagtnaagct gccataaata 180
 tttctcaa 188

<210> 697
 <211> 289
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(289)
 <223> n = A,T,C or G

<400> 697
 ctgcttggac ttcaaagccc tccgcctagc catctcagcc aggctcaggn tccttctccc 60
 acccatcagg ccaagcagga ctgtgnaaac atacacattc aagttcctag cacacagtag 120
 gtgctaagtg ggaattgatt ataaacttga attcttccat caacaaatat ctacctctcc 180
 tgtccagctt gcctcagatc ttcaggntct ctcttctctg aggagctaa gcttctacat 240
 ccttcatgaa gtttccttta cttctcgaca gaagacagtt cccttttagg 289

<210> 698
 <211> 193
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(193)

<223> n = A,T,C or G

<400> 698

aaagtttgtg	ctataaaatt	gtgcaaatat	gttaaggatt	gagacccacc	aatgcactac	60
tgtaatat	cgcttcctaa	atttcttcca	cctacagata	atagacaaca	agtctgagaa	120
actaaggcta	accaaaactta	gatataaatc	ctaccaataa	aatttttcag	ntttaagttt	180
tacagtttga	ttt					193

<210> 699

<211> 279

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(279)

<223> n = A,T,C or G

<400> 699

ccttcccccc	ccttccttat	gagttctaac	ttagtaattt	caaagtgtgac	cttttatatn	60
taagaccagt	atagtaaact	tagccacag	tggcaataa	tgagtaatat	tgtaatatgt	120
tccagnngga	taccctcctt	gtcttgaatt	ttggctttga	cattctcaat	ggtgtcactg	180
ggctcgacct	caagggtgat	ggttttgcca	gtgagggctc	tcacaaagat	ctgcatggtt	240
gcgtccgcac	gaccgccgcc	accaaccagc	tcggccgcc			279

<210> 700

<211> 340

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(340)

<223> n = A,T,C or G

<400> 700

ctgtccaatg	acaacaggac	cctcaactta	ctcagtgta	caaggaatga	tgtaggaccc	60
tatgagtgtg	gaatccagaa	caaattaagt	gttgaccaca	gagacccagt	catcctgaat	120
gtcctctatg	gccagacga	ccccaccatt	tccccctcat	acacctatta	ccgnccaggg	180
gtgaacctca	gcctctcctg	ccatgcagcc	tctaaccac	ctgcacagta	ttcttggtg	240
attgatggga	acatccagca	acacacacaa	gagctcttta	tctccaacat	cactgagaag	300
aacagcggac	tctataacctg	ccaggccaat	aactcagcca			340

<210> 701

<211> 277

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(277)

<223> n = A,T,C or G

<400> 701

ccactggctg	agntattggc	ctggcaggna	tagagtccgc	tgttcttctc	agtgatgttg	60
gagataaaga	gctcttgtgt	gtgttgctgg	atgttcccat	caatcagcna	agaatantgt	120
gcaggtgggt	tagaggctgc	atggcaggag	aggctgaggt	tcacccctgg	acggtaatag	180
ngtattgagg	gggaaatggt	ggggtcgtct	gggccataga	ggacattcag	gatgactggg	240

tcgctgtggt caacacttaa tttgttctgg attccac 277

<210> 702

<211> 255

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(255)

<223> n = A,T,C or G

<400> 702

ctgcgcgtcg ccaaagtgac aggcggngcg gcctccaagc tntctaagat ccgagtcgtc	60
cggaaatcca ttgcccgtgt tctcanagtt attaaccaga ctcagaaaga aaacctcagg	120
aaattctaca agggcaagaa gtacaagccc ctggacctgc ggcctaagaa gacacgtgcc	180
atgcgcgcgc ggctcaacaa gcacgaggag aacctgaaga ccaagaagca gcagcggaag	240
gagcggctgt acccg	255

<210> 703

<211> 224

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(224)

<223> n = A,T,C or G

<400> 703

cctgtttgga gngctgctc gaaagggttt gccctgagac tnnaagaaga agctgcggga	60
aggacagcag gggncctggg gttttagcnt ctggcccagg agttatgtgt ccataaccaa	120
aggagacaca gtctgcaccc agctctcatc ccacgcggagc tgctgcgact cccgcaggnt	180
cttccggaac tggtttagct tgcccgcagn atcagnaaag ttg	224

<210> 704

<211> 445

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(445)

<223> n = A,T,C or G

<400> 704

aggtaaaaag cagcctgggc aagagaagtg ggtgggttta ggagaatccc tttcgaaaaa	60
ttcagagcat tattattaat ccttcttaaa tttaatgcag ggccaagcat gctgcacgtg	120
gaatctggac aattttttga taaactttaa ggctgctaaa taatttacag aaactgtgaa	180
tgcattttca ttttacgagg caaaagagaa aatattcaag attgcatagc aattttattt	240
tttgaaatgg ntatcctaaa gaatttcctt aaattcagat ttgcaaaaat tectactctc	300
caagtcacat agngaacact aaaagcaact ttactcgtga atacagggga ctctttacga	360
ggcatgcatt tttcataaat ctaggccaaa gngaactaat tgagatttaa ttctaaattc	420
atcctgngat ttctgcatat aatat	445

<210> 705

<211> 107

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(107)

<223> n = A,T,C or G

<400> 705

atcacccnat	ttaattaa	atccctggnc	tnaggaccta	cagcanngta	ctgnagaact	60
tnagaacctn	aattagccat	ttgccatctt	nagagagtct	tnnccat		107

<210> 706

<211> 113

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(113)

<223> n = A,T,C or G

<400> 706

aaatagtttc	taaaggcaag	gncttgctat	gttgcttagg	ctggttttga	aaagtccctt	60
ttggggggat	gctttcactg	cttcacttcc	tttctatgac	agctnaggga	atc	113

<210> 707

<211> 283

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(283)

<223> n = A,T,C or G

<400> 707

ctgctccaag	gccatcaaga	tottcatggg	gaggacggag	ctgaagntgg	aagacaagca	60
ccgtgtggtg	atccagcgtg	atgaggggtca	ccacgtggcc	tacaccacgc	gggaggtggg	120
ccagtancgtg	gnggnggagt	ccagcacggg	catcatcgnc	atctgggaca	agaggaccac	180
cgtgttcac	aagctggctc	cctcctanaa	gggcaccgtg	ngnggcctgt	gtgggnactt	240
tgaccaccgc	tccaacaacg	acttcaccac	gcgggnccac	atg		283

<210> 708

<211> 341

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(341)

<223> n = A,T,C or G

<400> 708

ctgtccaatg	acaacaggac	cctcactcta	ctcagtgtca	caaggaatga	tgtaggaccc	60
tatgagtgtg	gaatccagaa	caaattaagt	gttgaccaca	gcgacccagt	catcctgaat	120
gtcctctatg	gccagacga	ccccaccatt	ttccccctcat	acacctatta	ccgtccaggg	180
gngaacctca	gcctctcctg	ccatgcagcc	tctaaccac	ctgcacagta	ttcttggtg	240
attgatggga	acatccagca	acacacacaa	gagctottta	tctccaacat	cactgagaag	300

aacagcggac tctatacctg ccaggccaat aactcagcca g 341

<210> 709

<211> 376

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(376)

<223> n = A,T,C or G

<400> 709

ccaagtccag	gggcgtggag	gccgcccggg	agcggatggt	caatggtgag	aagatcaact	60
anaccgaggg	tgcagccgtg	ctgcacgtgg	ctctgcggaa	ccggtcaaan	acacnnatcc	120
tggtagacgg	caaggatgtg	atgccagagg	tcaanaaggt	tctgganaag	atgaagtctt	180
tctgccagcg	tgtccggagc	gngactgga	aggggtanac	aggcaagacc	atcacggacg	240
tcatcaacat	tggcattggc	ggctccgacc	tgggacccct	catggngact	gaagccctta	300
agtcatactc	ttcaggaggn	ccccgcgnct	gggatgnctc	caacattgat	ggaactcaca	360
ttgcaaaac	cctggc					376

<210> 710

<211> 232

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(232)

<223> n = A,T,C or G

<400> 710

ctgctgtata	ttcagcattg	tgggaggagc	tgtgaaagac	anagaacagt	anaggggtgtg	60
gnccctgccc	tgcagaggnt	tanagtctag	gtggagaaac	gggaancagg	acacatgggg	120
agccgagaga	aaanagtcca	ggccagtatg	ttacaggagc	tggaaggtgt	ttgggggtcag	180
acccaatac	tccaagtaca	ctaagcactt	cagtgcctcc	aggggctcaa	cg	232

<210> 711

<211> 317

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(317)

<223> n = A,T,C or G

<400> 711

caggtaaaat	agatttaatt	taggaaagct	cattttatat	gagtttccaa	ctaattatta	60
gagtcagaaa	caaagaaaaat	aaaatcagag	aaaatcctct	gtagaaaaaa	tacacaaaga	120
acattttctac	atgtgaaaaa	acagtaaaca	gtgttaacat	ccaagttatt	agtctcaatt	180
ccacgtctcc	tagtgaacac	cactatcaac	cttgagatct	gatttgntct	tgtcattctt	240
cactgagtag	atgaaatatg	ttaaggtgtc	tttttcattc	actggaatag	acctaaagtg	300
gcaaccaact	atctcaa					317

<210> 712

<211> 154

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(154)

<223> n = A,T,C or G

<400> 712

tntgtagaaa	aaatanacaa	agaacatttn	tanatgtgaa	aaaacagtaa	acagngttaa	60
catccaagtt	attagtctca	attccacgtc	tcctagttaa	caccactntc	aaccttgaga	120
tctgatttgn	tcttgtcatt	cttcactgag	taga			154

<210> 713

<211> 177

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(177)

<223> n = A,T,C or G

<400> 713

ccattcagag	gtagaagatg	gagggggcggc	agattctggc	agggcagcag	agggctctat	60
gcacgggttt	caaacctgtt	ttccacactc	tgtcttttga	gntttggtaa	ttctgtgggc	120
tatttatana	gatattaaaa	tcttgtttat	aaaaaaaaaa	aaaaaaaaaa	aaaaaaa	177

<210> 714

<211> 216

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(216)

<223> n = A,T,C or G

<400> 714

ctgtgtttcg	gctataaaaa	ggcggctgaa	agaaggggaa	aattanttta	gacttaattg	60
gaagtttcat	atggcacaca	ttaccagnag	agaaaaagat	ataaacggca	ataaatatta	120
ggctcgattt	gagaaactct	ccccacctca	atgcttttct	ttcccttgct	atttaagggt	180
ctacttttga	accctgtgtg	gtgtttgtgt	gtgtgt			216

<210> 715

<211> 376

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(376)

<223> n = A,T,C or G

<400> 715

ctgtgcgagt	gtaccggatg	cttccacctc	tcaccaagaa	ccagagaaaa	gaaagaaagt	60
cgaagtccag	ccgagatgct	aagagcaagg	ccaagaggaa	gtcatgtggg	gattccagcc	120
ctgatacctt	ctctgatgga	ctcagcagct	ccactctgcc	tgatgaccac	agcagctaca	180
cagttccagg	ctacatgcag	gacttggagg	nggagcaggc	cctgactcca	gctacaacag	240

atgaggatga ggaagggaaa ttacctgagg acatcatgaa gctcttggag cagncggagt	300
ggcagccaac aagcgtggat gggaaggggt acntactcaa tgaacctgga gnccagccca	360
cctctgtcta tggaga	376

<210> 716

<211> 96

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(96)

<223> n = A,T,C or G

<400> 716

aaacttttta ttgcatatt aaaaaattg tgcattccaa taattaaaat catttgaana	60
aaaaaaaaat ggcncntntga ttaaactgca ttacag	96

<210> 717

<211> 366

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(366)

<223> n = A,T,C or G

<400> 717

gatggaaagg atacagatga catcaagatc cccatgctgt tcttattcag caaagaagga	60
agtatcatatc tggatgccat ccgggaatat gaggaggtag aagngctcct ctctgataaa	120
gcaaaagatc gagatcctga aatggaaaat gaagaacaac catcctctga aaatgattct	180
cagaatcaga gtggtgaaca gatttcatca agttctcagg aggntgattt ggntgatcaa	240
gagtcttctg aggaaaattc tctaaattct caccagaat cattatctct agcagatatg	300
gacaatgctg caagcatttc cccttctgaa cagacttcta atnccacaga aaaccatgag	360
actaca	366

<210> 718

<211> 200

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(200)

<223> n = A,T,C or G

<400> 718

aaacatctca catatanaaa ataggtacaa tttaattttt ctgcttgccc aagaaacaaa	60
gcttctgtgg aacctggaa gaagatgaaa atgagactgg caaagaacaa atgctgaatc	120
tgaagaagat ttgggcaaat aatctgcata cttttaattg ggaataagat ggaaaatatg	180
aatgctaaat caaatttttt	200

<210> 719

<211> 336

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(336)

<223> n = A,T,C or G

<400> 719

ctgtctcaca	ctttgcaagc	tgtgagagac	acatcagagc	cctgggcact	gtcactgctt	60
gcagcctgag	ngtaactccc	tccttttcta	tctgagctct	tcctcctcca	catcacggca	120
gcgaccacag	ctccagtgat	cacagctcca	aggagaacca	ggccagcaat	gatgcccacg	180
atggggatgg	tgggctggga	agacagctcc	catctcaggg	tgaggggctt	gggcagaccc	240
tcattgctgca	catggcaggn	gtatctctgc	tcctctccag	aaggcaccac	cacagccgcc	300
cacttctgga	aggntccatc	cccttgccagg	ccttgg			336

<210> 720

<211> 167

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(167)

<223> n = A,T,C or G

<400> 720

ggagagtgcct	agtgaggcgg	ccaagaagta	natggaggag	aatgannagc	tcaagaaggg	60
agctgctggt	gacggaggca	agttggatgt	cgggaatgct	gaggtgaagt	tggaggaaga	120
gaacaggagc	ctgaaggctg	acctgcagaa	gctaaaggac	gagctgg		167

<210> 721

<211> 134

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(134)

<223> n = A,T,C or G

<400> 721

cctagtatga	ggagcggttat	ggagtggaag	tgaaatcana	tggttaggcc	ggaggn catt	60
aggagggtcg	agagggcccc	tgtaggggt	catgggctgg	gn ttacgtg	cgtgaggagg	120
ggcggagctt	gcag					134

<210> 722

<211> 353

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(353)

<223> n = A,T,C or G

<400> 722

aaaaatatat	acaactatga	tggtcaaata	tgtattctga	gccattatgt	tcaaacataa	60
atatctggga	aattcaaact	gctgcaacaa	gttaggaaag	gattaaggaa	aaatgatgag	120
ctacaaatta	tgtagttgga	ggaagaaaaa	aatgttactt	agcatttatg	tctggatagg	180
tatgtatttt	ctaatttaca	tacacatatc	cagntgagta	tagacaacca	tcaaaatgta	240

accagttaca	cagagactag	actaagccaa	cactattttc	tataacaggn	aacagtagng	300
atttcaaaaa	ttttaatatc	tcaatagttt	caccaaaaaat	tatttatggg	aat	353

<210> 723

<211> 268

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(268)

<223> n = A,T,C or G

<400> 723

ctgagaagag	cgccaggaag	ccctgggtgc	gagagttgat	gacgtcgatc	tcgtgcaggg	60
acacgngtg	caccacctcc	ttgcgtttct	ggagctcccc	atctgggcac	tgcacgaact	120
tggntctgga	gcccatacg	tcgtagtcgc	gggcgngtgt	gaaggagcgg	cccaacttgg	180
agatcttgcc	cgtcgccttg	tcgatggnga	tcacgtcccc	ggcctggacc	ttgtccttgg	240
ncagggactc	aatcatcttg	ntgcccag				268

<210> 724

<211> 344

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(344)

<223> n = A,T,C or G

<400> 724

aaagaatcag	caaaatttca	aataaaaaat	tatgaaaata	ttatcctcat	tagttcattt	60
agncccatga	aattaattat	tttctctgct	cgatcttggt	ggacagtttc	atgaagctgt	120
cagttagttc	attaaagttt	tggaaattct	cagacagtgc	agtggatatca	gaaacttgta	180
ttcaagagta	naggtcagag	nottcttttc	ttttcttttt	gagatggagt	cttgctctgt	240
tgccagactg	gagtgcagtg	gtgcgatctg	ggtcactgc	aatctccacc	tcccgggttc	300
aagcgattct	cctgcctcag	cctcccagat	aactgggact	acag		344

<210> 725

<211> 345

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(345)

<223> n = A,T,C or G

<400> 725

aaacaagaga	aagtagacag	atacatgttg	gnaaatgcta	actgtccata	ttcacataga	60
gacacagtgt	actctctgag	cccaatatan	agagaaaagga	ggaaaaaagc	tagaattcta	120
tgcactacta	cacagggggc	tagcaccctc	cagcttccag	cagagcgaag	ggagcaggnt	180
tttctttttt	cccacagagc	tcgggggggt	gattccatac	agnttttggt	cagacaggaa	240
gggataaaaa	tgaacttcga	acagaaaggg	gtagagactc	ttttccatt	gtattctgct	300
caagggnattt	ccccccaaat	aaattgagaa	ccatggagnn	gagaa		345

<210> 726

<211> 305

210

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(305)

<223> n = A,T,C or G

<400> 726

ttgcctgatg	tcagagcccc	tccacacatg	agcctgctcc	ctactgccaa	caccgtggcc	60
cagacagaga	cgctttccga	ggaagagggtg	aagctcctgc	agtcgctgaa	gnaagganag	120
cagatcgatg	ggaaaaaggg	cgccgagggtt	gggggcatgt	ctctcttctt	accaagctag	180
actgggntgc	ctttttctaac	tattccagcc	ctacagggcg	agggggcata	atggagtatc	240
ccgccccctt	agaccccagg	cgctcaccgg	cagggcaaga	aggngaaatc	cagcagccgc	300
gccag						305

<210> 727

<211> 387

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(387)

<223> n = A,T,C or G

<400> 727

ccaacgaggc	atcacctctg	acgggtgtcag	tcacgatga	ccggctcaag	gagaagatgg	60
tggtggagtt	ccgccacatg	aggaaccatg	cctatgagcc	actcgccagc	ttcctagact	120
tcattactta	nagttacatg	atcgacaacg	ngatcctgct	catcacaggc	acgctgcacc	180
agcgtccat	cgctgagctc	gtgcccgaagt	gccacccact	aggcagcttc	gagcagatgg	240
aggcgtgaa	cattgctcag	acacctgctg	agctctacaa	tgccattctg	gtggacacgc	300
ctcttgccgc	ttttttccag	gactgcattt	cagagcagga	ccttaacgag	atgaacatcg	360
agatcatccg	caacaccctc	tacaagg				387

<210> 728

<211> 109

<212> DNA

<213> Homo sapien

<400> 728

ctgactgaca	gccagattgc	agatgtggct	cgcttttgta	accgctaccc	taatatcgaa	60
ctatcttatg	aggtggtaga	taaggacagc	atccgcagtg	gcggggccag		109

<210> 729

<211> 329

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(329)

<223> n = A,T,C or G

<400> 729

aaagcatagg	actatagtca	gcatgctaga	ctgagaggta	aacactgatg	caattagaac	60
aggtagctg	gctgtcagtg	tttaacacta	tgtttagctg	tgtttatgct	ataaaagtgc	120
aatattagac	actagctagt	actgctgcct	catgtaaactc	caaagaaaac	aggatttcac	180

taagtgcatt	gaatgtggct	atttctctaa	gttactcata	ttgtcctttg	cttgaatgca	240
atgccngca	gatttatgtg	gotgctatit	ttattttctg	ngcattactt	taacacctta	300
aagngagaag	caaacatttc	cttcttcag				329

<210> 730

<211> 238

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(238)

<223> n = A,T,C or G

<400> 730

aaaaagtggc	agagtgactt	aactgatcat	gcattgatccc	tcatccctga	aattgagttt	60
atgtagncat	tttacttatt	ttattcatta	gctaactttg	tctatgtata	tttctagata	120
ttgattagtg	taatcgatta	taaaggatat	ttatcaaatac	cagggattgc	atatttgaaat	180
tataattatt	ttcttttgctg	aagnattcat	tgtaaaacat	acaaaataaa	catatttt	238

<210> 731

<211> 297

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(297)

<223> n = A,T,C or G

<400> 731

aaactgaatt	ttttgacott	ggaaaatatt	tttcttactt	taccaagggtg	aagtttcctt	60
aattagacta	attattttat	cccatccca	gggtataaac	aggaattggt	ttgatagtg	120
tggagttatt	cactgcaaca	aagcaacaat	gttgtccatg	attcaaaatac	taagcagttt	180
cgatttttgc	tgtgaatatg	gngtctgtca	ttcagggcat	agctcactgt	aggctagcct	240
ctgcttactt	aagnotcttc	tctgacatac	tcaatggaag	aatatttaga	tttattt	297

<210> 732

<211> 370

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(370)

<223> n = A,T,C or G

<400> 732

ctgtcagtct	tcctgaaatg	aagaaactac	accagggctg	ctatatcaga	gcaaccccaa	60
ccagcactcc	aatcatgatg	cgcacagngg	ccccatttag	aagntcaaaa	acaaaaatta	120
agttaggtag	ncagacatct	ataaatacta	gtatccgcat	gaatgaaaac	accctggcct	180
tggnatggct	acagaaaatcc	atctggaaat	tattcaaaaag	gacgtgggtc	agggaaaagg	240
gggtaggcag	ggcatggggg	gaggggaaca	cacaaaaccc	ccaagcagag	gtaaaatgaa	300
tattggaaca	cacccgcagc	aaacactgta	catagacttg	aggcagatgc	ctctaacaca	360
acacatatat						370

<210> 733

<211> 242

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(242)

<223> n = A,T,C or G

<400> 733

cctcctatit	attctagcca	cctctagcct	agccgtttac	tcaatcctct	gatcagggtg	60
agcatcaaac	tcaaactacg	ccctgatcgg	cgcactgcga	gcagtagccc	aagcaatctc	120
atatgaagnc	accctagcca	tcattctact	atcaacatta	ctaataagtg	gctcctttta	180
cctctccacc	cttatcacia	cacaagaaca	cctctgatta	ctcctgccat	catgaccctt	240
gg						242

<210> 734

<211> 368

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(368)

<223> n = A,T,C or G

<400> 734

cctttcttgt	aagtgaagaa	aaaggaatgc	agcaaagaag	agttcgacat	tggagtcctt	60
agttccatca	ggatcccat	cgcagccttt	agcatcatgt	agaagcaaac	tgcacctatg	120
gctgagatag	gtgcaatgac	ctacaagatt	ttgngttttc	tagctgtcca	ggaaaagcca	180
tcttcagnct	tgctgacagt	caaagagcaa	gtgaaaccat	ttccagccta	aactacataa	240
aagcagccga	accaatgatt	aaagacctct	aaggctccat	aatcatcatt	aaatatgccc	300
aaactcattg	ngacttttta	ttttatatac	aggattaaaa	tcaacattaa	atcatcttat	360
ttacatgg						368

<210> 735

<211> 308

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(308)

<223> n = A,T,C or G

<400> 735

ctgtccaata	ggcgtagcta	tccggacaga	gcacgtttgc	agaaggggga	ctcttcttcc	60
aggtagctga	aaggggaaga	cctgacgtac	tntggtttagg	ntaggacttg	ccctcgtggn	120
ggaaactttt	cttaaaaagt	tataaccaac	ttttctatta	aaagtgggaa	ttaggagaga	180
aggtaggggt	tggaatcag	agagaatggc	tttggncctct	tgcttgtggg	actagcctgg	240
cttgggacta	aatgccctgc	tctgaacacg	aagcttagna	taaactgatg	gatatcccta	300
ccttgaaa						308

<210> 736

<211> 354

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature
 <222> (1)...(354)
 <223> n = A,T,C or G

<400> 736
 ccttctgcta cgtagtctac aacagaagga ttcaggcaat tacctctgcc atgcggngga 60
 acatgggttc atacaaactc ttcttaaggt aaccctggaa gtcattgaca cagagcattt 120
 ggaagaactt cttcataaag atgatgatgg agatggctct aagaccaaag aaatgtccaa 180
 tagcatgaca cctagccaga aggtctggta cagagacttc atgcagctca tcaaccaccc 240
 caatctcaac acgatggatg agttctgtga acaagtttgg aaaagggacc gaaaacaacg 300
 tcggcaaagg ccaggacata ccccgaggaa cagtaacaaa tggaagcact taca 354

<210> 737
 <211> 198
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(198)
 <223> n = A,T,C or G

<400> 737
 ctgccgtgc acacgctcgt tcttctctgc ctcagtgatg cgcttctcct cattgcggnc 60
 atcccggatg cctcactag acagctccgc gctgtagccc gtgggctctg cgccctcatc 120
 ctgcaagctc tcctggacat ggtagctcac cggctcgtac acgggggggtg gtggggggcgg 180
 gggngctgtc atcaccag 198

<210> 738
 <211> 228
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(228)
 <223> n = A,T,C or G

<400> 738
 gtgccatggc acacagcctg ggtgcacacc cagcgnctc tcttgcaggt gcaggtattg 60
 cagtccacct tgatcttggc gccggaagaa tanaggctgt tgttatggac gcaagggcat 120
 tccttctcca ccacgcagcc accccggccg tcatccatca gccgctcggg gcacacacag 180
 ccactgacac actctgtgtg gnaatagccg gccggccagcg nctggcag 228

<210> 739
 <211> 378
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(378)
 <223> n = A,T,C or G

<400> 739
 aaaaaataca ggagtcgata gcagcagttg gtgacgagat ggcactcaga aacggcgttg 60
 acgtaattta ggacgtggaa tcataagcga aacagcacac tgtttgaata aagagcgagt 120
 cggnatattat atttgntttt cttttgtcat gattatttga tttttaagnt gctccagcta 180

```

aggcattttt ttgtattagn atttctatta gggaaccttt cttattaggn ggnttgtatt      240
gtctggnttc taacatgcag gtagctgttt ggcagttaaa cacgtttaga gtaatttgag      300
ttacaacgtg tgaaactgag caaaaaagca gngataagnt tgggttacca taccaaatat      360
ttgttttccc actggaaa                                     378

```

<210> 740

<211> 200

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(200)

<223> n = A,T,C or G

<400> 740

```

ccacttgagt ggntcctggc tgcttctgtg attgttaggt cttgagagat tatggacccg      60
aggcattctg ggtaccccat caattggctg atggncttct atttgggctg cgcttcttct      120
aaaaagggga gctcaaaggt ctttttttcc cccactgcag agctaaaaaa gtccctgtac      180
gccatcttct cccagtttgg                                     200

```

<210> 741

<211> 273

<212> DNA

<213> Homo sapien

<400> 741

```

ctgcttggca tggtaatggg ccggtggcat catgagcccc agaatcagcc ttgccaggtc      60
tccagagatc tcagacttca ggtcagtcac taagtcccg ccaaagttag acttgaaggt      120
ctgccggatc tgcctgcgct ggacattgct gcggtgcgtg atgatatcga tgattgtgtc      180
ttcgtcagtc ccgagtcctt tcatggcttt ccgcagcgct ttggcatctg cgtcagggtt      240
gaagtcattg gctgggcgca caggctccct cag                                     273

```

<210> 742

<211> 297

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(297)

<223> n = A,T,C or G

<400> 742

```

ctgcagttgc tcccttttag gttataaaat aatgacccaa atgttacatg tgttgatatt      60
ataacttgtc agttactgat gtctgtggna tcctaccctc atctctgaaa gggataatac      120
tgaataatta ttagaaaact ataaaacttc acactttgta ccattaaaac ctaaaatttt      180
aatcttgnc ttttttacta tggatcagtc ggcactcggg aacagcagca aggaaaagag      240
gcaaatttca ttcacatggt ctgngntcat acctcttctc tacctaattg ttcattt      297

```

<210> 743

<211> 381

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(381)

<223> n = A,T,C or G

<400> 743

ctgcacctcc	acctccttga	agttgaagat	actattgcc	tcaaagccag	cagccagctc	60
tggacagtat	gcctgcagg	aacctccatg	ccggctcagt	gacacactct	ctgcagccag	120
ggtaatgaac	ttgtcctcag	ctacaaaagc	tgtgagcttg	gctgtgctca	cctccagggt	180
taggttttagc	agccgctttg	ggggtaaatg	ctcaggggca	cggccttcta	gctcagaagn	240
agntcctgaa	gnctctagt	caagggatgg	tacagtctca	ggaaacacag	nggctcttag	300
taggnctcgg	cactgtagag	ngnggnatc	cccagagctg	gngatgattt	ggttgtcatc	360
caggaagcgg	caacacgaca	g				381

<210> 744

<211> 167

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(167)

<223> n = A,T,C or G

<400> 744

cagcgnngggg	ctcggagagg	tgctcggatt	ctcgtagctg	tgccgggact	taaccaccac	60
catgtcagagc	aaaagaanaa	agaccaagac	caagaagcgc	cctcagcgtg	caacatccaa	120
tgtgtttgct	atgtttgacc	agtcacagat	tcaggagttc	aaagagg		167

<210> 745

<211> 96

<212> DNA

<213> Homo sapien

<400> 745

ccacaaaactc	ctctggctgt	actccctcct	gcaggagacc	ggcctcactg	cactcagcag	60
gctcttctcc	ctgcgattca	cttctgggac	agtcac			96

<210> 746

<211> 391

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(391)

<223> n = A,T,C or G

<400> 746

ccattacgca	gccgcttcag	caaacagggc	tcctcccggc	ccgagggcgg	gaccacagtg	60
gccgtcagca	ggctgagatc	cgtctctgag	atgttgatgg	ggatgtcggc	agcagagccg	120
accttttaggt	gggacatacg	catggagtcg	tcacctgtga	cccgggcagt	gaaggggctg	180
cctgggacgt	gctgttcatt	gtacttgact	agaatgctgt	agtcccccg	cagcacaggc	240
aagtaggaca	cgctgcnatg	tcccatcctg	gttgtcagtg	cagtgttgct	tgttcagtat	300
ctcaagccca	gaaagatgaa	ttaatccttg	aaggaaatga	cattgagctt	gtttcaaatt	360
cagcggcttt	gattcagcaa	gccacaacag	t			391

<210> 747

<211> 408

<212> DNA

<213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(408)
 <223> n = A,T,C or G

 <400> 747
 aaagttgttt gtgccttttt atttttgttt ttaatgcttt gatatttcaa tgttagcctc 60
 aattttctgaa naccataggt agaatgtaaa gcttgtctga tcgttcaaag catgaaatgg 120
 atacttatat ggaaattctg ctcatagata atgacagtcc gtcaaaacag attgcttgca 180
 aaggggaggc atcagtgtcc ttggcaggct gatttctagg taggaaatgt ggnagcctca 240
 cttttaatga acaaattggc tttattaaaa actgagtgc tctatatagc tgatcagttt 300
 tttcacctgg aagcatttgt ttctactttg atatgactgt ttttcggaca gtttatttgt 360
 tgagagngtg accaaaagtt acatgtttgc acctttctag gtgaaaat 408

<210> 748
 <211> 337
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(337)
 <223> n = A,T,C or G

 <400> 748
 ggcggagaga ggcgagcacc gggaagggga gcgngggggc gctggaatgg gtgaatttaa 60
 ggnccatcga gtacgtttct ttaattatgt tccatcagga atccgctgtg tggcttacia 120
 taaccagtca aacagattgg ctgtttcacg aacagatggc actgtggaaa tttataactt 180
 gtcagcaaac tactttcagg agaaattttt cccagggtcat gagnctcggg ctacagaagc 240
 tttgtgctgg gcagaaggac agcgactctt tagtgctggg ctcaatggcg agattatgga 300
 gnatgattta caggcgtaa acatcaagta tgctatg 337

<210> 749
 <211> 261
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(261)
 <223> n = A,T,C or G

 <400> 749
 ccgggaggct ctgattattt acccaccaca ggtaggttgt gttctgaatc tcaggttcac 60
 aggttaaggc tacagcatcc tcatcctcca cggggttgga gttgttgctg gngatgaagg 120
 gtttggttggt ctctgcatag actgtgatcg ncgtgactgt ggnccatttg aggccagtgt 180
 ctgagttatg ggcttggcac gtataggatc cactattatt cacagngatg ttgggggataa 240
 agagctcttg gngggattgc t 261

<210> 750
 <211> 150
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(150)

<223> n = A,T,C or G

<400> 750

aacgctgang	acatgacatc	caaagattac	tacttttgact	cctacgcaca	ctttggnatc	60
cacgaggaga	tgctgaagga	cgagggtgcgc	accctcactt	accgcaactc	catgtttcat	120
aaccggcacc	tcttcaagga	caaggngnng				150

<210> 751

<211> 288

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(288)

<223> n = A,T,C or G

<400> 751

aaaacttttg	ttaagaaaaa	ctgccagttt	gtgcttttga	aatgtctgtt	ttgacatcat	60
agtctagtaa	aatttttgaca	gtgcatatgt	actgttacta	aaagctttat	atgaaattat	120
taatgtgaag	nttttcattt	ataattcaag	gaaggatttc	ctgaaaacat	ttcaagggat	180
ttatgtctac	atatttgtgt	gtgtgtgtgt	gtatatatat	gtaatatgca	tacacagatg	240
catatgtgta	tatataatga	aatttatgtt	gctggnattt	tgcatttt		288

<210> 752

<211> 248

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(248)

<223> n = A,T,C or G

<400> 752

ctggcactga	ggatttatatc	catataagaa	ttcaacagag	aaacggcagg	aagaccctta	60
ctactgtcca	agggatcgct	gatgattacg	ataaaaagaa	actagtgaag	gcgtttaaga	120
aaaagtttgc	ctgcaatggg	actgtaattg	agcatccgga	atatggagaa	gtaattcagc	180
tacagggnga	ccaacgcaag	aacatatgcc	agttcctcgt	agagattgga	ctggctaagg	240
acgatcag						248

<210> 753

<211> 346

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(346)

<223> n = A,T,C or G

<400> 753

ctgctagaaa	acaggaaga	tattagccaa	tatggaattg	ccaggttctt	cactgaatat	60
tttaacagtg	tatgccaggg	aacacacatt	ctctttcgag	aattcagctt	cgtccaagcc	120
acccccaca	atagggnatc	atttttacgg	gccttctgga	gatgcttccg	aactgtgggc	180
aaaaatggcg	atttgctgac	catgaaagaa	tatcactgtt	tgctgcaatt	actgtgtcct	240
gatttcccg	tggagctcac	tcagaaagca	gccaggattg	tgctcatgga	cgatgccatg	300
gactgcttga	tgnctttttc	agatttcctc	tttgcttcc	agatcc		346

<210> 754
 <211> 100
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(100)
 <223> n = A,T,C or G

<400> 754	
gtgccacagg cagccctggg anataggaag ctgggagcaa ggaaagggtc ttagtcactg	60
cctcccgaag ntgcttgaaa gcactcggag aattgtgcag	100

<210> 755
 <211> 405
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(405)
 <223> n = A,T,C or G

<400> 755	
tgtgggcca cttcccaa ctctggagga tctgcagctt actcataaca agatcacaaa	60
gctgggctct tttgaaggat tggtaaacct gaccttcac catctccagc acaatcggct	120
gaaagaggat gctgtttcag ctgcttttaa aggtctttaa tcaactgaat accttgactt	180
gagcttcaat cagatagcca gactgccttc tggntccct gtctctcttc taactctcta	240
cttagacaac aataagatca gcaacatccc tgatgagtat ttcaagcgtt ttaatgcatt	300
gcagnatctg cgtttatctc acaacgaact ggctgatagt ggaataacct gaaattcttt	360
caatgngnca tccctggntg agctggatct gtcctataac aagct	405

<210> 756
 <211> 306
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(306)
 <223> n = A,T,C or G

<400> 756	
ccttgggaaa ttacctggaa atgcgactga aatcttcctt cctgaggggt ctgggctctt	60
ggaaatcaaa ccctctcagg ttgggtggct ggacgattct cctcacactt anaatgggac	120
aaggggaacc aggaggcccc caaggggatc cctgggntcc acacgaactc ctcctaccct	180
cattgngtga cagcagccat gcctcctcct ggggatcagg atctattacc tgtgcctgga	240
gaggagggga ctcctcttct caccgcgtgg nctctggaca catactgtcc aattcccctg	300
tggcag	306

<210> 757
 <211> 321
 <212> DNA
 <213> Homo sapien

<220>

<221> misc_feature
 <222> (1)...(321)
 <223> n = A,T,C or G

<400> 757
 ctggaggagg gntccctggg aggtttttgt ggattcccttc tgcagngact cccctgggtt 60
 ctggntctgg ggacccagng tccaggcgca gnettttagc acttctcagt gtagacgttg 120
 acagggntct tttcccgctt gaatcctgct gagtcccaa atctcttgac ttgtcttggn 180
 tacagnacc accagagctg ctncagntt tgacaaaagc agttgctgct gaagngatcg 240
 ttttgaatcc tatcatagca ctggcaggtc ccggnaaatt cttacagtca gcaggcggac 300
 ctctgtgtgag ttgaatatcc c 321

<210> 758
 <211> 278
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(278)
 <223> n = A,T,C or G

<400> 758
 cgctcggcaa gntctccag gagaaagcca tgttcagttc gagcgccaag atcntgaagc 60
 ccaatggcga gaagccggac gagttcgagt ccggcatctc ccaggctctt ntggagctgg 120
 agatgaactc ggacctcaag gctcagctna gggagctgaa tattacggca gctaaggaaa 180
 ttgaagttgg tgggtggtcg aaagctatca taatctttgn tcccgntcct caaacctgcc 240
 cgggcggccg cttcgagccc tatagtgagg cgnattag 278

<210> 759
 <211> 401
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(401)
 <223> n = A,T,C or G

<400> 759
 gcaaactgca aaccatggtg agaaattgac gacttcacac tatggacagc ttttcccaag 60
 atgtcaaaac aagactcctc atcatgataa ggctcttacc cccttttaat ttgtccttgc 120
 ttatgcctgc ctctttogct tggcaggatg atgctgtcat tagtatttca caagaagtag 180
 cttcagaggg taacttaaca gagtatcaga tctatcttgt caatcccaac gttttacata 240
 aaataagaga tccttttagtg caccagnga ctgacattag cagcatcttt aacacagccg 300
 ngtgttcaaa tgtacagngg nccttttcag agntggactt ctagactcac ctgttctcac 360
 tccctgnttt aattcaacct agccatgcaa tgccaaataa t 401

<210> 760
 <211> 346
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(346)
 <223> n = A,T,C or G

<400> 760
 ccgaggtttg gatcatggga gaacagcaga aaggggttat tgagggaacc tacactgttc 60
 tagctgcacc ccatgccctt ctacagaggaa agcctggcat tgattagata ctgggccaga 120
 ctaatactgg cagcagagcc agtgatagta acctgcctac cagaggagcc ttccactggg 180
 ttggcaattt tgatctgggc cccggacatc tggcggatct cattaatgtt ggcgcccttg 240
 cgcccgatta tgcagccaat taagttattt ggaatggnga gttcatgggt ggtttgagta 300
 gatgcacca aacttgccca atagccttcc acctntggag agacct 346

<210> 761
 <211> 256
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(256)
 <223> n = A,T,C or G

<400> 761
 gagacagact gggatgatgac gctgaatctg cagaggtgct ggtgaccaat tcccctaaag 60
 catctacttg tctcctcaaa ctgtgtaaag tgccctctgt ctgccgcttt cctttaatta 120
 atacttctgc ttgcttggac atacagtgtc ggagttggnc ctgaaaagtg tgataagact 180
 taggnnttta cacagnaaga aatgtaccag aactgctgct cagcttcctc acatacattt 240
 gataggcaaa tctagc 256

<210> 762
 <211> 321
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(321)
 <223> n = A,T,C or G

<400> 762
 tggactctgg antgatgctg gaagtagata cgaaaatgng aagaacaatg gaacagcaca 60
 ctttctggag catatggctt tcaagggcac caagaagaga tcccagttag atctggaact 120
 tgagattgaa aatatgggtg ctcatctcaa tgcctatacc tncagagagc agactgtata 180
 ctatgccaaa gcatttctta aagacttgcc aagagctgta gaaattcttg ctgatataat 240
 acaaaacagc acattgggag aagcagagat tgaacgtgag cgtggagtaa tccttagaga 300
 gatgcaggaa gttgaaacca a 321

<210> 763
 <211> 348
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(348)
 <223> n = A,T,C or G

<400> 763
 tgagaaaaca taaagtaacc agcagatttc aatattaaaa agaagtgggt cntcctaaaa 60
 aaggtnttag atcatagagt tgggattagg gtaggggata cctattaatc tggnctggaa 120
 aaaaagngtg tggagaaggg gagntgtatt gntttctcac aagaggcaaa cttcagncaa 180
 acaatgaaga gatagtaggn agggagatgt gtgntagacc aaagactttc tgattgctga 240

taataacaaa	tttagcagct	ntctacaagt	caattaaaaat	accatttctct	gagacatttt	300
cagagaggag	ctaactaaca	cccacccagg	nggaaaaatc	attctaca		348

<210> 764

<211> 374

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(374)

<223> n = A,T,C or G

<400> 764

agcnaagaag	gaagctcctg	cccctcctaa	agctgaagcc	aaagcgaagg	ctttaaagnc	60
caagaaggca	gcgttgaaag	gtgtccacag	ccacaaaaag	aagaagatcc	ncacgtcacc	120
cacottccng	cngccgaaga	cactgcgact	ccggagacag	cccaaatac	ctcgggaagag	180
cgctcccagg	agaaacangc	ttgnccacta	tgctatcatc	aagtttccgc	tgaccactga	240
gnctgccatg	aagaagatag	aagacaacaa	cacacttggt	ttcattgngg	atgttaaagc	300
caacaagcac	cagattaaac	aggctgngaa	gaagctgtat	gacattgatg	tggccaaggt	360
caacaccctg	attc					374

<210> 765

<211> 288

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(288)

<223> n = A,T,C or G

<400> 765

aaatacaata	attctgttat	tgataaaaatt	taaggcattt	tcattgcctt	ttgcagattt	60
actcataact	acctaacaag	gaaagaaggt	ataattattt	cagattggat	tatttattct	120
aaaattaaat	tcttactaa	tttattctaa	gatgaattta	atagtccatc	aggaaattgg	180
nttttataaa	gottatttta	tgggcataaa	atacaggaaa	aggtaataat	aaatgccaaa	240
ccgtctcttt	actttatgaa	gccaaatatt	tcctcagact	tggttttt		288

<210> 766

<211> 424

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(424)

<223> n = A,T,C or G

<400> 766

ttgtggttgt	gcctgagggc	totgettccg	acactcatga	acaggctatc	ttgcggttgc	60
aagtcaccaa	tgttctgtct	cagcctctga	ctcaggccac	tgttaaacta	gaacatgcta	120
aatctgttgc	ttccagagcc	actgtcctcc	agaagacatc	cttcaccctt	gtaggggatg	180
tttttgaact	aaatttcatg	aacgtcaaat	tttccagtgg	ttattatgac	ttccttgtcg	240
aagttgaagg	tgacaaccgg	tatattgcaa	ataccgtaga	gctcagagtc	aagatctcca	300
ctgaagttgg	catcacaaat	gttgatcttt	ccaccgngga	taaggatcag	agcattgcac	360
ccaaaactac	ccgggtgaca	tacgcagcca	aagccaaggg	cacattcatc	gcagacagcc	420
acca						424

<210> 767
 <211> 302
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(302)
 <223> n = A,T,C or G

<400> 767
 ggcttttctca ataagcctca gcttttctaag atctaacaag atagccaccg agatccttat 60
 cgaaactcat tttaggcaaa tatgagtttt attgtccgtt tacttgtttc agagtttgta 120
 ttgtgattat caattaccac accatctccc atgaagaaag ggaacgggtga agtactaagc 180
 gctagaggaa gcagccaagt cgnttagtgg aagcatgatt ggtgcccgat tagcctctgc 240
 aggatgtgga aacctccttc caggggaggt tcagtgaatt gtgtaggaga ggttgcctgt 300
 gg 302

<210> 768
 <211> 94
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(94)
 <223> n = A,T,C or G

<400> 768
 ctgatctaaa agaagttact gaggaagatt tgaataatca cttaagtct ttgggaagca 60
 gnnatttgaa atnttgaggt gacagncttt taag 94

<210> 769
 <211> 69
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(69)
 <223> n = A,T,C or G

<400> 769
 ctgcaagacg actccaaccc aacaacaacc agatgngctn cagcccagcc ggncttcagt 60
 tccatattt 69

<210> 770
 <211> 222
 <212> DNA
 <213> Homo sapien

<400> 770
 ctgaacgcaa accagccact ttaattaagc taagccctta ctagaccaat gggacttaaa 60
 cccacaaaca cttagttaac agctaagcac cctaataaac tggcttcaat ctacttctcc 120
 cgccgccggg aaaaaaggcg ggagaagccc cggcaggttt gaagctgctt cttcgaattt 180
 gcaattcaat atgaaaatca cctcggagct ggtaaaaaga gg 222

<210> 771
 <211> 332
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(332)
 <223> n = A,T,C or G

<400> 771
 ctgctttccc tcctatggct cccctggaac aggagggaga gccaaagggg cggcccagcc 60
 tggacagcgc ccgctcctgc ctgggtgcac acacggcggg cctgagctcc agcatctgag 120
 tttgggggta tgagaaacag gggagcagaa ggagaagaaa actgcctgtg ctgcaacacg 180
 tttcctcatt tattttttct ttctttttct ttttttcttt ttttggaggg agagggtccct 240
 gcaagggtccc ttcccgggca gnggagggat ggaaatgccg tcacagtagt agggactgga 300
 gcgtctacaa ggatggaggg gagctactca gg 332

<210> 772
 <211> 194
 <212> DNA
 <213> Homo sapien

<400> 772
 aaaagaaaga tcaattatat ccatgcttaa caggatcagc aggagcttta taaatgactt 60
 tacagagact aataagggat ttgatctttc tttttttggt atcgaggctt ttgaaatgtg 120
 gaacttgtgt gttctgcttt atatgttata ttcaatatct tttcagatgc agtctatatt 180
 ttatgctgag tttt 194

<210> 773
 <211> 272
 <212> DNA
 <213> Homo sapien

<400> 773
 ccaattgatt tgatggtaag ggagggatcg ttgacctcgt ctgttatgta aaggatgcgt 60
 agggatggga gggcgatgag gactaggatg atggcgggca ggatagttca gacggtttct 120
 atttcctgag cgtctgagat gttagtatta tttagttttg ttgtgagtgt taggaaaagg 180
 gcatacagga ctaggaagca gataaggaaa atgattatga gggcgtgac atgaaagggtg 240
 ataagctctt ctatgatagg ggaagtagcg tc 272

<210> 774
 <211> 314
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(314)
 <223> n = A,T,C or G

<400> 774
 gtgtcttgta cagttagnta tattagcagc cctctgagat gncgnatcta tcggaaggat 60
 ttcaaaccacc aattgcttta cctgaacaaa tggnncttac cttttgaaca gcanagnagac 120
 cacgnagaag gaaggaaaag ggnaaaatcg ctttagttta actgaaatta aatgaacaat 180
 aaggcaacta tataagtnac ttctagnagc attgcctgag anacaaatta ttgtttgata 240
 atttncattg tgaatagnaa tccaatagat catattgctt actttgntct ttttatacta 300
 tagaataata tttt 314

<210> 775
 <211> 207
 <212> DNA
 <213> Homo sapien

<400> 775
 cctgacagag ctgagctcac actgggaagt gtggatgcag ggtgcccttc cctaccccag 60
 tgagaaggaa gattccttac ccattcttgc tccccccag ggaagatcat catgcacgac 120
 ccatttgcca tgcggccctt ttttggctac aacttcgggc actacctgga aacttggtg 180
 agcatggaag ggcgcaagg ggcccag 207

<210> 776
 <211> 196
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(196)
 <223> n = A,T,C or G

<400> 776
 gtgaacggag gcactgtggc cgagaagctg gactggncgc gcgagaggct tgagcagcag 60
 gtacntgtga accaagtgtt tgggcaggat gagatgatch acgtcatcgg ggtgaccaag 120
 ggcaaagct acaaagggnn caccagtcgt tggcacacca agaagctgcc ccgcaagacc 180
 caccaggagac ctgcgc 196

<210> 777
 <211> 325
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(325)
 <223> n = A,T,C or G

<400> 777
 aaagttgaac taagattcta tcttggacaa ccagctatca ccaggctcgg taggnttgtc 60
 gcctctacct ataaatcttc ccactatatt gctacataga cgggtgtgct cttttagctg 120
 ttcttaggta gctcgtctgg tttcgggggt cttagctttg gctctccttg caaagttatt 180
 tctagttaat tcattatgca gaaggtatag gggtagncc ttgctatatt atgcttggt 240
 ataatttttc atctttccct tgcggtacta tatctattgc gccaggtttc aatttctatc 300
 gcctatactt tatttgggta aatgg 325

<210> 778
 <211> 421
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(421)
 <223> n = A,T,C or G

<400> 778
 ccaaaagaag taagacagct tgctgaagat ttctgaaag actatattca tataaacatt 60

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ggtgcacttg aactgagtgc aaaccacaac attcttcaga ttgtggatgt gtgtcatgac 120
gtagaaaagg atgaaaaact tattcgncta atggaagaga tcatgagtga gaaggagaat 180
aaaaccattg nttttgtgga aaccaaaaga agatgtgatg agcttacnca nanaaatgag 240
gagagatggg tggcctgccca tgggtatcca tggtgacaan agtcaacaag agcgtgactg 300
ggttctaaat gaattcaaac atggaaaagc tcctattctg attgctacag atgtggcctc 360
cagagngcta gatgtggaag atgngaaatt tgtcatcaat tatgactacc ctaactcctc 420
a 421

```

<210> 779

<211> 330

<212> DNA

<213> Homo sapien

<400> 779

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ctgaactttc cgcttacgct gccagagct gccagggtgta gactgagaat tcgagttttg 60
tttcttcctt ggggttgtat ctgcagcctt ttctccctgg gactccctgt ctgctgccaa 120
tggagttgaa gaactggaat gatgacacag ctctctcttct cttattttct ttgctggcct 180
ctccggtgtc tgggagcggg aggaggcttg ggctagagaa ggggtgatgaa ctggggccat 240
ttctcttcca gagctgtgag atgcctcgag tggagctgta ggaactggta atggcattgc 300
ggctggagct agggatgccca cttgcgtaag 330

```

<210> 780

<211> 279

<212> DNA

<213> Homo sapien

<400> 780

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gagaggtaga gtttttttcg tgatagtggc tcaactggata agtggcggtg gcttgccatg 60
attgtgaggg gtaggagtca ggtagttagt attaggaggg ggggttgtag ggggtcggag 120
gaaaagggtt gggaacagct aaatagggtt ttggtgattt gggttaaaaa tagtagaggg 180
atgatgctaa taattaggct gtgggtgggt gtggtgattc aaattatgtg ttttttgtaa 240
agtcattgca gtggtagtaa tataattgtt gggacgatt 279

```

<210> 781

<211> 323

<212> DNA

<213> Homo sapien

<400> 781

```

ttgatcttct gcaggaaggt gcagcttttc catatcagct caaccacgcc gccagtccat 60
tcttaaggaa ctgccgacta ggactgatga tgcatttttag ctttgagctt ttgggggtta 120
ttctaccaac aaacagtcca ttggaaagaa aacagtcctt ggaattaaca gattagaatg 180
ttcacactgg ttaattcttt ttttaacaatg agcatgaagg tagcagaagc tgggtgtggt 240
ccagatgggt cttctaacca aactaatttt tcaactgttg caagcgaggc aagggttgca 300
ctggaccaaa ggctgaggct tgg 323

```

<210> 782

<211> 264

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(264)

<223> n = A,T,C or G

<400> 782

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ttctagcttt gccctcactc cccggaaaaa ctgacactga cacaggngct ctttccttgc 60

```

ccctttagnt	ggtacctcag	tggggaggct	tccttaccaa	gaatgagttc	ctgaaaccca	120
gggccagaga	caaggacaac	ttaggggaag	acgggggtttt	cggtggagcc	aggggcaa	180
cttaatggga	ccagnngggg	ataccccaga	gcccattggc	tgactgcaca	gcctgcctgg	240
aggatgggtg	cgcagttctg	cnct				264

<210> 783
 <211> 159
 <212> DNA
 <213> Homo sapien

<400> 783	
ctgtgtgaag	gcgacagtgg
tgcaggtctt	cctgtggact
agacgtccca	gtcttgccctt
60	
tcctttgata	atgcagtaag
ggacccccat	tttacgacac
agggcaggca	agaagacaac
120	
cagctcgatg	ggatccacgt
cgtgtgcaat	caccaccag
159	

<210> 784
 <211> 128
 <212> DNA
 <213> Homo sapien

<400> 784	
ctcggccctc	ttacaccatt
ttgtttgatt	gtctagtccc
tgtttctttt	tcttttetaat
60	
ccttattcat	ttaagcaaaa
ccatacatta	tcttttccag
tcctttcttg	tattcttact
120	
gttttttt	
128	

<210> 785
 <211> 346
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(346)
 <223> n = A,T,C or G

<400> 785	
ctgggctgat	gctggaactc
gtagaagtac	acaggggccc
gggaacactg	aaaatgtgct
60	
acttgagtg	cagggatcac
aaacatggag	tccgccatca
tctcctggaa	ctgcgcttgg
120	
agggtctggg	gatccccatt
gnccccaatg	tactcctccc
tcagcaggtc	accaaagtga
180	
ggaggcaaca	tcagcagcgt
taacattttc	tgcagagcag
cctgggaggc	ctctctgtcc
240	
atttccttct	gggtatcata
gatcctcatg	acettgggga
tgagccagcc	gaattcattg
300	
ttgttgacac	caacaatgct
agngnacagn	ctgaaagtcg
gcagag	
346	

<210> 786
 <211> 118
 <212> DNA
 <213> Homo sapien

<400> 786	
ctgcactgat	ctgtggggag
agttttacag	acttttcatt
ccagcctcct	ccattgacag
60	
tgaggtcttc	attcaatcct
gaagaaacct	gaagtgtaga
atctcctttt	ccagattt
118	

<210> 787
 <211> 257
 <212> DNA
 <213> Homo sapien

<400> 787

cactcattca	tcgacctccc	caccccatcc	aacatctccg	catgatgaaa	cttcgggtca	60
ctccttggcg	cctgcctgat	cctccaaatc	accacaggac	tattcctagc	catgcactac	120
tcaccagacg	cctcaaccgc	cttttcatca	atcgcccaca	tcactcgaga	cgtaaattat	180
ggctgaatca	tcgctacct	tcacgccaat	ggcgccctca	tattctttat	ctgcctcttc	240
ctacacatcg	ggcgagg					257

<210> 788

<211> 155

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(155)

<223> n = A,T,C or G

<400> 788

cgcaagagcc	tatgnatgtg	gnatccagaa	ctcngtgngc	gcaanccgca	gagacccagt	60
cacctggnt	gtncctctatg	ggccggacac	ccccatcatt	cccccccag	actcgtctta	120
cctttcngga	gcgaacctca	acctctcctg	ccact			155

<210> 789

<211> 382

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(382)

<223> n = A,T,C or G

<400> 789

cctaagtaaa	tgaagagctg	taccatattc	atgtattgga	agacaacatt	gtaaagatga	60
catggtttac	cagattaatc	tataaattca	atacaaatcc	aatcaaaatt	tcaatgctct	120
tgggtttgtt	tgatttataa	attgttggtc	taattctaga	agtaatatgg	aggaacagtt	180
ggctaagaat	agccaagaca	ctncaaggaa	gaacaatttt	gtggngatac	tggagacaga	240
ggtgaaattg	gttacaatta	tgacaaaatg	tggaggcatc	ttggttttta	tcagaccttt	300
tcctaaagt	gcaataatca	ggactgtact	gtactgctac	aagattagac	aaattgatgt	360
cagtcagaat	agaaatcatc	aa				382

<210> 790

<211> 273

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(273)

<223> n = A,T,C or G

<400> 790

ggatccgcta	cacagtttct	gccagtcctt	gagttgatgc	cttttcggct	aactcgccag	60
nttatcaatc	tgatgttacc	aatgaaagaa	acggtncctta	tgtacagnat	catggtacac	120
gcactccgnn	ccttcgcgtc	agaccctggc	ctgctcacca	acaccatgga	tgtgtttgtc	180
aagnagccct	cctttgattg	gaaaaatttt	gaacanaaaa	tgctgaaaaa	aggaggggtca	240
tggattcaag	aaataaatgt	tgctgaaaaa	aat			273

<210> 791

<211> 344
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(344)
 <223> n = A,T,C or G

<400> 791
 aaagaatcag caaaatttca aataaaaaat tatgaaaata ttatcctcat tagttcattt 60
 agtcccatga aattaattat tttctctgct tgatcttggn ggacagtttc atgaagctgt 120
 cagttagtctc attaaagttt tggaaattct cagacagtgc agtgggtatca gaaacttgta 180
 ttcaagagta caggtcagag ccttcttttc ttttcttttt gagatggagt cttgctctgt 240
 tgccagactg gagtgcagtg gtgcgatctg ggctcactgc aatctccacc tcccgggttc 300
 aagcgattct cctgcctcag cctcccaggt aactgggact acag 344

<210> 792
 <211> 227
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(227)
 <223> n = A,T,C or G

<400> 792
 gacaaacctg aaattgaaga tgttggttct gatgaggaag aagaaaagaa ggatggtgac 60
 aagaagaaga agaagattaa ggaaaagtac atcgatnaag aagagctcaa caaaacaaag 120
 cccatctgga ccagaaatcc cgacgatatt actaatgagg agtacggaga attctataag 180
 agcttgacca atgactggga agatcacttg gcagngaagc atttttc 227

<210> 793
 <211> 328
 <212> DNA
 <213> Homo sapien

<400> 793
 aaacaagtca tttttcttga tcgttggtga aggtttggag ccttagaggt atgtcagaaa 60
 aaatatgttg gtattctccc ttgggtaggg ggaaatgacc tttttacaag agagtgaat 120
 ttaggtcagg gaaaagacca agggccagca ttgctacttt tgtgtgtgtg tgtgggtttt 180
 gttttgtttt tttggttggc cgttggtttt cgttggtgtt aacaaaggaa tgagaatatg 240
 taatacttaa ataaacatga ccacgaagaa tgcgtgttctg atttactaga gaatgttccc 300
 aatttgaatt tagggtgatt ttacctgc 328

<210> 794
 <211> 290
 <212> DNA
 <213> Homo sapien

<400> 794
 ccagcgagca catgaagcgg ttcttcatga actttgtggt tgggcaggat ccgggctcag 60
 acgccgcctt ccacttcaat ccgcggtttg acggctggga caaggtggtc ttcaacacgt 120
 tgcagggcgg gaagtggggc agcgaggaga ggaagaggag catgcccttc aaaaagggtg 180
 ccgcctttga gctggtcttc atagtcctgg ctgagcacta caaggtggtg gtaaatggaa 240
 atcccttcta tgagtacggg caccggcttc ccctacagat ggtcaccac 290

<210> 795
 <211> 343
 <212> DNA
 <213> Homo sapien

<400> 795
 aaaatcaaag aaatccttgt tttgaaaatt ggatcttaat ctcaaaattg tagaacttgg 60
 ctgagaccat tgctttcatt ttgaaaatga acttcaactc cagaaagacc agtgtgtgct 120
 ctgocaaata aattttctgag tcacagtctc actaggaatg tgcaaatcaa agcatatgtt 180
 ggtgtaaatt cttttgaagt ccttgccaag ataatcaatg gcatttacat ttgctttttt 240
 ctttaataaa aattccacca ttttcaactt tcttcgactc acagcaagta acagtggctg 300
 atattcattc ttgctgcatt cttcaatatt tgtaccatgt gaa 343

<210> 796
 <211> 354
 <212> DNA
 <213> Homo sapien

<400> 796
 tggcgggccg ctgaataagc ttccaaaatg atgccacac cagttattct attgaaagag 60
 gggactgata gctcccaagg catccccag cttgtgagta acatcagtgc ctgccaggtg 120
 attgctgagg ctgtaagaac taccctgggt ccccggtggca tggacaagct tattgtagat 180
 ggcagaggca aagcaacaat ttctaataatg ggggccacaa ttctgaaact tcttgatgtt 240
 gtccatcctg cagcaaagac tttggtagac attgccaaat cccaagatgc tgaggtgggt 300
 gatggcacca cctcagtgc cttgctgggt gcagagtttc tgaagcagac ctgc 354

<210> 797
 <211> 309
 <212> DNA
 <213> Homo sapien

<400> 797
 ctgtgccgtc tgccctgagcc catggatgct ttctcaatcc taggctgggt actgtgtaag 60
 cgttttggag tacggggcct tgagcgggtg ggagctgtgt gttgaagtac agagggaggt 120
 tggggtgggt cagagccgag ttaagagatt ttctttgttg ctggaccct tcttgaaggt 180
 agacgtcccc caccgggaga gacgtcgccg tgtggcctga agtggcgcaa gcttgctttg 240
 taaatatctg tgggtccgat gtagtgccca gaacgtttgt gcgaggcagc tctgcgcccg 300
 ggttccagc 309

<210> 798
 <211> 315
 <212> DNA
 <213> Homo sapien

<400> 798
 ccaccagcat tgacgttctt gccatccaga agagctgaca gtgtcagttt aatacctggc 60
 tttagagtct gagtgtatcc taaacctatc aggcgtggagt tgttcacttt agccgagaag 120
 caggcgtcag ggtcaatctg atacttggct gctattccga agcgcgtgtt actgtttcct 180
 gctgtccagg caagattgac agcggctctc aacttcttgt tcactttctg gtaaatggag 240
 ccgccaaact ctgtcccgtc attcacatta gtgtgaagct ggaattcatc agtctttag 300
 ccaactgcaa agttg 315

<210> 799
 <211> 157
 <212> DNA
 <213> Homo sapien

<400> 799

230

ctgtgatttc	ctccatagtt	ggcttctggg	tcaggccata	ggcaatatatt	tcttgaagac	60
ttctttccaaa	tacctgtggc	tcttgtccca	ctgcagccac	ctgcctgtgc	aggtagcgg	120
gctcatattg	gggaagggg	ttcccatcca	acagcag			157

<210> 800

<211> 357

<212> DNA

<213> Homo sapien

<400> 800

aaactcagtg	aacccaaacc	tatTTTTTt	aatctgaata	ttgctgcagc	aaaaccaact	60
ccacccaaaa	gccgggtaac	attaacaaaa	gaattccctg	tatcatctgg	atctcaacat	120
cggaaaaaag	aagcggatag	tgTTTTatgga	gaatgggttc	ctgtcgagaa	aaatggtgaa	180
gaaaacaaag	atgatgataa	tgTTTTcagc	agcaatttgc	cctcagagcc	tgtggacatc	240
tctacagcaa	tgagtgaacg	ggcacttgct	cagaaaagac	tcagtgagaa	tgcatTTtgat	300
cttgaagcca	tgagcatgtt	aaatagagct	caggaaagga	ttgatgcctg	ggctcag	357

<210> 801

<211> 359

<212> DNA

<213> Homo sapien

<400> 801

cctagggggc	atatcaaggg	tttaatatagac	tgggggaatg	ggcaacagaa	ctggctacct	60
tagaggctct	ggaatgcccc	ccaccatcc	accaccaat	ggaaggaaag	tcaggcatcg	120
cctaaaagga	gtggtcccta	tctagcccca	agtctggagc	agaaagggca	ggtccattct	180
ggcccaagtg	acattgttag	atcctgtccc	ctccccaat	cactgctgct	tgccagggtg	240
cctcttcaca	gttcccatgt	ggcagcagta	gtggcagagg	cagaagtgga	cttattgtag	300
attgcagtac	agatacatgg	acacaatcat	ggcagccagc	tcgaggcccc	caattccag	359

<210> 802

<211> 207

<212> DNA

<213> Homo sapien

<400> 802

ccaggctcgg	gcaccacctc	aatcacatcc	atgatcaaga	tccgccctcg	gcacgtgacc	60
tcctccccct	gcatgaggca	ggtcccgcg	gccacgtagc	ctttgaggcc	cgacacggtc	120
tcctcactgc	gcagagacac	tgtcttcatg	caggtcacat	gctcccactc	ctgcagctcg	180
atcctggcat	tggaatagc	ctccag				207

<210> 803

<211> 311

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(311)

<223> n = A,T,C or G

<400> 803

cctatttcac	tgtctgtgtag	cctcagtgcc	taacatgggt	gccaaataaa	tattcgtaga	60
attacactga	attgtaaaaa	ccattcgntt	ttgnttacia	ttgccaaaaa	tctcaaaagg	120
ccctgtattt	atgtaattct	ttgaaattat	tattttatatt	tgattttctca	gttattgact	180
ggctggngt	gacttagtac	ataagtactc	aatattatna	aaacctcaaa	taattgactt	240
gattttacac	aacatccttc	cctttttctac	aagntaattt	ttttacaaat	catttgggtt	300
atctcctaaa	t					311

<210> 804

<211> 202

<212> DNA

<213> Homo sapien

<400> 804

ctgttcggat	ttaacttcat	cttctggctt	gccgggattg	ctgtccttgc	cattggacta	60
tggctccgat	tcgactctca	gaccaagagc	atcttcgagc	aagaaactaa	taataataat	120
tccagcttct	acacaggagt	ctatatctctg	atcggagccg	gcgccctcat	gatgctggtg	180
ggcttcctgg	gctgctgcgg	gg				202

<210> 805

<211> 238

<212> DNA

<213> Homo sapien

<400> 805

ccaaccagtc	tggctggagt	gatgcattcc	tggcccagca	cacgatgctt	accctggatc	60
ccaacgtcac	cgggtgtcttc	ctgggaccct	accccttttg	catcgatcct	atttggagcc	120
tggctgccaa	ccacttgagc	ttcctcaact	ccttcaagat	gaagatgtcc	gtcatcctgg	180
gcgtcgtgca	catggccttt	ggggtggtcc	toggagtctt	caaccacgtg	cacttttg	238

<210> 806

<211> 325

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(325)

<223> n = A,T,C or G

<400> 806

cctgaggtct	gcggaaggtg	ggaggaggca	gacgccctgc	gtggcccatg	gtcggggcgt	60
ccaagccgag	gccggcaaca	aacgacagta	tctcggattc	cttttttttt	taatttttta	120
tactttggng	tttcacttcg	ngctctgaat	actgaataac	catgaatgac	tgaatagttt	180
agtccagatt	tttacagagg	atacatctat	ttttatcatt	atttgggggt	tgaaaaattt	240
ttttttacac	cttctaattt	ctttatttct	caaagcagat	aattcttctg	ngtgaaaatg	300
ttttcttttt	ttaattttaag	gttta				325

<210> 807

<211> 289

<212> DNA

<213> Homo sapien

<400> 807

cctaaagggg	actgtcttct	gtcgagaagt	aaaggaaact	tcataagga	tgtagaagct	60
tagctgcctc	agagaagaga	gaacctgaag	atctgaggca	agctggacag	gagaggtaga	120
tatttggttg	tggagaattt	caagtttata	atcaattccc	acttagcacc	tactgtgtgc	180
taggaacttg	aatgtgtatg	tttgacaagt	cctgcttggc	ctgatgggtg	ggagaaggaa	240
cctgagcctg	gctgagatgg	ctaggcggag	ggctttgaag	tccaagcag		289

<210> 808

<211> 376

<212> DNA

<213> Homo sapien

<400> 808

aaacttaatt	aaagagcttg	acaagctctg	catattcatg	tgtcataagc	agtatgtgac	60
aaaaaaaaact	gtgcagtatg	tacccctca	cgaaatttag	tttggcaggg	aaaacaagat	120
gcacatgtta	ttataaatta	gaaaatggaa	gagaagtaga	aataaatcca	tgagtattat	180
atataagtaa	cagaacaaaa	acaacaggat	aatgtatccc	ccccaaggc	ccagtagaga	240
ccatcaaagc	tcattctggg	ggtagtcaag	gagggagtgg	agggagaaaa	agaacgcaga	300
ccttcaacca	ctaataaag	aactgaaaca	tctgtatgta	gaaaaaaggt	aaaatcaact	360
cactatcatc	ttcagc					376

<210> 809

<211> 243

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(243)

<223> n = A,T,C or G

<400> 809

ccatctcatt	ttcaaagtnc	agagctacat	aacacagttt	ctccttgatg	tcccggacaa	60
tctcacgctc	agcagtagta	acgaaggaat	agccacgctc	agtcaggatc	ttcatgaggt	120
agtcagttag	atctcggcca	gccagatcca	gacgcatgat	gncatggggc	aaggnatagc	180
cntcatagat	gngacantg	tgggtgacac	catctccaga	gtccagcacg	atgccagttg	240
tgc						243

<210> 810

<211> 274

<212> DNA

<213> Homo sapien

<400> 810

aaaaaacacg	tttgttatta	ccaaaaagag	acgtcttttag	gtaaaaataa	taaaaacccc	60
atgctgcatt	gataatgcag	atagttctat	ttatctggtc	aacgggcaaa	aagcaagcac	120
tttaggtctt	cagctccaat	cttttgttca	tttcttattg	ctggaatttc	atatttcttc	180
ttgttgtag	actaaaccgg	atgatggtag	agatggtaag	ccggcattta	ctcagccccg	240
ccctgctcag	cctcgggagc	ggacgaattc	tcag			274

<210> 811

<211> 205

<212> DNA

<213> Homo sapien

<400> 811

ctgggtggaga	tcataaaggt	gctgggaaca	ccaacccggg	aacaaatccg	agagatgaac	60
cccaactaca	cggagttcaa	gttccctcag	attaaagctc	acccttgagc	aaagggtgttc	120
aaatctcgaa	cgccgccaga	ggccatcgcg	ctctgctcta	gcctgctgga	gtacacccca	180
tcctcaaggc	tctccccact	agagg				205

<210> 812

<211> 199

<212> DNA

<213> Homo sapien

<400> 812

aaatattgct	gctgctttgt	agatgatgag	aagaaatggt	aaagtgcttt	ctaaaaggaa	60
attttttcac	ctttggagga	gaatatatta	gagttgtggg	taatttttca	cagccaccta	120
tgtacatact	aattacccat	tggatactta	tatctaaaag	tctcatgctg	aagtatagtt	180

tttgggaaag aatgatttt

199

<210> 813

<211> 334

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(334)

<223> n = A,T,C or G

<400> 813

cctcaccgcc	gatgcaagga	tagtcatcaa	cagggcccgn	gtggagtgcc	agagccaccg	60
gctgactgtg	gaggacccgg	tcactgtgga	gtacatcacc	cgctacatcg	ccagtctgaa	120
gcagcggttat	acgcagagca	atgggcgcag	gccgtttggc	atctctgccc	tcacgtgagg	180
tttcgacttt	gatggcactc	ctaggctcta	tcagactgac	ccctcgggca	cataccatgc	240
ctggaaggcc	aatgccatag	gcgggggtgc	caagtcagtg	cgtgagttcc	tggagaagaa	300
ctatactgac	gaagccattg	ctctgcgacc	tgcc			334

<210> 814

<211> 358

<212> DNA

<213> Homo sapien

<400> 814

ctgaagcttg	gaactttctg	acaagaaaag	gcctggtttc	tggtggcctc	tatgaatccc	60
atgtagggtg	cagaccgtac	tcacatccctc	cctgtgagca	ccacgtcaac	ggctcccggc	120
ccccatgcac	gggggaggga	gataccccca	agtgtagcaa	gatctgtgag	cctggctaca	180
gcccgaacct	caaacaggac	aagcactacg	gatacaattc	ctacagcgtc	tccaatagcg	240
agaaggacat	catggccgag	atctacaaaa	acggccccgt	ggaggagct	ttctctgtgt	300
attcggaactt	cctgctctac	aagtcaggag	tgtaccaaca	cgtcaccgga	gagatgat	358

<210> 815

<211> 203

<212> DNA

<213> Homo sapien

<400> 815

ctggaagccg	gactcagcca	gggtgcgcta	ctaccagagc	ctgcaggctc	atctcaaggt	60
ggacgtgtac	agacgtccc	acaagcctct	gcccagggg	accatgatgg	agacgtgtc	120
ccggtacaag	ttctacctgg	ccttcgagaa	ctccttgac	cccgaactaca	tcaccgagaa	180
gctgtggagg	aacgccttgg	agg				203

<210> 816

<211> 92

<212> DNA

<213> Homo sapien

<400> 816

cggccgcaga	agcgagatga	cgaagggaac	gtcatcgttt	ggaaagcgtc	gcaataagac	60
gcacacgttg	tgccgccgct	gtggctctaa	gg			92

<210> 817

<211> 367

<212> DNA

<213> Homo sapien

<400> 817
 ttggaggact atttgaattt tgcaaactat ctcttgtggg tttttacacc actaatactt 60
 ttaatacttc cttactttac tatctttctt ctctacctta ctattatatt cttacacatt 120
 tataagagaa agaattgtatt gaaagaagcc tactctcata atttattggga tgggtgcaagg 180
 aaaacagtgg caactctgtg ggatggacat gcagccggtt ggcatgggta tgaagttcat 240
 ggaatggaaa aaataccaga agatggacca gcacttataa ttttttatca tggagctatt 300
 cctatagatt tttactatct catggctaaa atatttatac acaaaggcag aacttgccga 360
 gtagtag 367

<210> 818
 <211> 381
 <212> DNA
 <213> Homo sapien

<400> 818
 aaataaaagt attacgtaac tttgaaattt gtataaaatt aaaagatagt aaaaacaact 60
 attctaacag aattcaaaac ctgttatgct tcagtggaga gattattcaa gataagtccg 120
 tgggaaattg ggagtacatt tctactggca aagttagtga taactatgca cttctgacaa 180
 aatgtgaaat ggggggtatg ggcgtgtcat atcatcatgg tgcagatacg tggatgtgtg 240
 cttccaaaca atggcaacct aactgactgc tgggaaccata caaaatacct gaaactactc 300
 agaaagaagg tgaaaattgc atgcaaaaat tatttgaaaa atattgagct aacacaacat 360
 gaatttgga ttataagtga g 381

<210> 819
 <211> 109
 <212> DNA
 <213> Homo sapien

<400> 819
 ccatggccgc ttccagacca tggaggagaa gaaagcattc atgggaccac tgaagaaaga 60
 ccgaattgca aaggaagaag gagcttaatg ccaggaacag attttgca 109

<210> 820
 <211> 309
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(309)
 <223> n = A,T,C or G

<400> 820
 ctggaaaaac ctttcagcga accatttcag ctccaggacac gttagcgtat gccacagctt 60
 tgttgaatga aaaagagcaa tcaggaagca gtaatgggtc ggagagtagn cctgccaatg 120
 agaacggaga cagncatcta cagcagggtt cagaatctcc catnatgatt ggtgagttga 180
 gaagnacact tgatgatgtt gatccctaga ggaacatgcc cagcctgaga ggagncaaga 240
 cacaatactg gatgctcagc accttctttg gaatcagaat ctccaaccct ntggaagagc 300
 ctgnagatt 309

<210> 821
 <211> 236
 <212> DNA
 <213> Homo sapien

<400> 821
 catccgcttc ctgaatgctg agaatgcaca gaaattcaaa acaaagtttg aagaatgcag 60
 gaaagagatc gaagagagag aaaagaaagc aggatcaggc aaaaatgatc atgccgaaaa 120

```

agtggcggaa aagctagaag ctctctcggg gaaggaggag accaaggagg atgctgagga      180
gaagcaataa atcgtcttat tttattttct tttcctctct ttcctttcct tttttt      236

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<210> 822
<211> 388
<212> DNA
<213> Homo sapien

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<220>
<221> misc_feature
<222> (1)...(388)
<223> n = A,T,C or G

```

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<400> 822
gcgaggcaag atggagttag tgcaggctct gaaacgcggg ctgcagcaga tcaccggcca      60
cggcgggtctc cgaggctatc tacgggtttt tttcaggaca aatgatgcga aggttgntac      120
attagtgggg gaagacaaat atggaaacaa atactatgaa gacaacaagc aatttttttg      180
ccgtcaccga tgggttggtat atactactga aatgaatggc aaaaacacat tctgggatgt      240
ggatggaagc atgggtgcctc ctgaatggca tggttggctt cacagtatga ctgatgatcc      300
tccaacaaca aaaccactta ctgctcgtaa attcatttgg acgaaccata aattcaacgn      360
gactggcacc ccagaacaat atgtacct                                388

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<210> 823
<211> 353
<212> DNA
<213> Homo sapien

```

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<220>
<221> misc_feature
<222> (1)...(353)
<223> n = A,T,C or G

```

```

<400> 823
aaaagttttg atctttttct cagcagggtat cagttgtaaa taatgaatta ggggccaaaa      60
tgcaaaacga aaaatgaagc agctacatgt agttagtaat ttctagtttg aactgtaatt      120
gaatattgtg gcttcatatg tattatttta tattgtactt ttttcattat tgatggnttg      180
gactttaata agagaaattc catagttttt aatatcccag aagtgaagca atttgaacag      240
tgtattctag aaaacaatac actaactgaa cagaagtga tgcttatata tattatnata      300
gccttaaacc tttttcctct aatgccttaa ctgtcaaata attataacct ttt          353

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```

<210> 824
<211> 264
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(264)
<223> n = A,T,C or G

```

```

<400> 824
ctgggtgcag gcgggctgag tccgaaaaga gagtgcagca agggagatgg ggtggggccg      60
ttttatagga ttagggaagg taatggaaaa ttacagtcaa agggggtttg ttctctggtg      120
ggcagggtgt gatctcaca agtacactct caagggtggg gagaattaca aaggaccttc      180
ttaagngtgg gggagattac aaagtacatt tatcagttag gngngngcag gaacaaatca      240
caatgttgna atgtcatcag ttaa                                264

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<210> 825

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<211> 361
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(361)
 <223> n = A,T,C or G

<400> 825
 aaaatccagt ttgttggttaa caaaacctac tgctgggtgg ttttgaatat attactttta 60
 ggcattgatct ccccaatgtg tttttactcc ttttccggct tctaggacag aggtatgtag 120
 tcaaagaatc ctatgggtga tctgaattgg gtttcagcta ctgtacctgg tccttgtgaa 180
 ttaaaaaaat aaagtcacaa aaaccatatt acaaaacaaa ttaaaaataaa tagacaaaat 240
 gaagctgtct ccagaccttc tgcattgaca cacagggttg aagtcaacca aagcactcat 300
 gctaattctgg atgggaacac tagggagaca gaaaccccag tatgaaacca tgtacttgag 360
 c 361

<210> 826
 <211> 195
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(195)
 <223> n = A,T,C or G

<400> 826
 cccagaagn gacgcagccc tctatnggcc cnaatcttct tcantcgctc cagggtcttca 60
 cggagcttgt tgtccagacc attggctagg acctggctgt attttccatc ctttacatcc 120
 ttctgtctgt tcaagaacca gtctgggacg ttgtactggc gnggattctg cataatggng 180
 atcacaggtt ccacc 195

<210> 827
 <211> 227
 <212> DNA
 <213> Homo sapien

<400> 827
 caacggctct tcacagacca cctccttttc taaggaaaat ggctggatat acgtgatgag 60
 tgatacatat tttgattcag gttttgtctc taaagtagca cttcttacca cagagatcaa 120
 ggacttgggt aatattatgc ttttttcctt caatggatta attttcttaa tataaaaaaca 180
 gatgaatacc aggctaagca ctagaaagag tagtaaagca gcaacaa 227

<210> 828
 <211> 242
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(242)
 <223> n = A,T,C or G

<400> 828
 atgtccgggg agtcagccag gagcttgggg aagggaagcg cgccccggg gccggtcccg 60
 gaggntcgat ccgcatctac agcatgaggt tctgcccgtt tgctgagagg acgcgtctag 120

tcctgaaggc	caaggggaatc	aggcatgaag	tcatcaatat	caacctgaaa	aataagcctg	180
agtggttctt	taagaaaaat	ccctttgggtc	tgnggccagt	tntggaaaac	agtcagggtc	240
ag						242

<210> 829

<211> 374

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(374)

<223> n = A,T,C or G

<400> 829

gaggtcctga	aaaggaatac	acttccatat	catgccatct	cttacctgg	cattccttgc	60
ctatgcatgt	gcatggcttg	ccctggttta	gcttggaac	tgattgaaag	tcagagagat	120
cactggcttt	gagacttgct	tgggggactt	gggtagcgct	agaggagtct	tccttcttac	180
tctctgatgg	gagccttgga	acagaagttc	tcaaaggctc	aacgactgcc	cctgcgtgat	240
tagcatcgag	agaagtagag	ctttctcctg	cactgaactc	tttaggggat	gaaattccca	300
gccactgct	gccatcaggt	gagtcagtct	ggcttttgng	cttgagttga	ctgctggaag	360
aagacgtat	tgta					374

<210> 830

<211> 325

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(325)

<223> n = A,T,C or G

<400> 830

gttcaaagca	gaaaatcctg	agcctctagt	gtttgggtgtg	aagtacaatg	caagttcttt	60
tgccaagttc	acgcttattg	tgacagatgt	gaatgaagca	cctcaattct	cccaacacgt	120
attccaagcg	aaagtcagtg	aggatgtagc	tataggcact	aaagtgggca	atgtgactgc	180
caaggatcca	gaaggtctgg	acataagtta	ttcactgagg	ggagacacaa	gaggttggnt	240
taaaattgac	cacgtgactg	gtgagatctt	tagtgtggct	ccattggaca	gagaagccgg	300
aagtccatat	cngtacaag	tggtg				325

<210> 831

<211> 85

<212> DNA

<213> Homo sapien

<400> 831

tggtaccggg	cccccccct	gagcgatgga	gcgtgggtag	ggaggggtcca	cagtgtccac	60
tcgccgtgtg	cgaagggtga	ctcgg				85

<210> 832

<211> 202

<212> DNA

<213> Homo sapien

<400> 832

aggcggagag	gatcatgtcc	gggaactgcg	gggtagtagc	gatctgggtt	accagccgt	60
tgtggccctt	gaggggtgcca	cgaagggtca	tctgctcagt	catggcggcg	gcgagagcgt	120

gtgtcgtgc agcgacgagg atggcactgg atggcttaga gaaactagca ccacaacctc 180
tcttgccgtc gacgcggccg cg 202

<210> 833
<211> 503
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(503)
<223> n = A,T,C or G

<400> 833
ccggctggtc ctgcatcgcc atctgctggc cgcgcggcac ggccggttcc tggagccagc 60
aggagtcgga ggctgcaggg cttgaaggcc tcttcaccgt gccctccagg gagcctagct 120
gccgaagtat tcttgctgga acttctggaa gtcttctctg gtgaacacgg tgccctcagc 180
cttcttcttc ttggtcttgg ccacaggccg gtcacaggcc ttgcggcccc ggttctggcg 240
caaaatctgc tggctcacag actcagccac ggtgcttctc gtcctggtca gaaacttcag 300
gtttactctg aggtggtctc gacactctcg cttccggtac tcgtccagtg ccgacttggg 360
cacctttccc ttggccgagt tccgcagttt ctgggcctga attgccttcg tcttccgggg 420
ccgtttcacc gganccctc tcggcttggc ctgacctgga ggggtcccgg gggcctngga 480
cgccgccagc agctncaggc ccc 503

<210> 834
<211> 208
<212> DNA
<213> Homo sapien

<400> 834
atccagagac aatctgccgg ttgtcagagg agaaggccac actcagcaca tccttggtat 60
ggcccacaaa tcgcctcgtg gtggtgcccg ttgtgagatc ccagaggcgc agggttccat 120
cccaggagcc tgagagggca aactggccat ctgaggagat aaccacatca ctaacaaagt 180
gggagtgacc ccgcagagca cgctgtgg 208

<210> 835
<211> 210
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(210)
<223> n = A,T,C or G

<400> 835
tgatgtgggc gattgatgaa aaggcggttg aggcgtctgg tgagtagtgc atggctagga 60
atagtcctgt ggtgatttgg aggatcangc aggcgccaaag gagtgagccg aagtttcatc 120
atgcggagat gttggatggg gtggggaggt cgatgaatga gtgggttaatt aattttatta 180
gggggttaat tttgcggtcg acgcggccgc 210

<210> 836
<211> 426
<212> DNA
<213> Homo sapien

<400> 836
cggccgccac gctggttttg catcttcagg agacgctcgt agccctcgcg cttctctctg 60

gccaattcgc	ggaagaagtg	gctcacgcct	tccagagcca	catcatcgcg	gtcgaaatag	120
aagcccagag	agaggtaggt	gtaggaggcc	tgcaggtaca	aattgaccag	gctgttgacg	180
gctgcctcca	cgtcggtgga	ataattctga	cgaatctggg	agctcatggg	tggttggcaa	240
gaaggagcta	accacaaaaa	cggtgctggc	aggtcccaga	agcaggagat	ggccgagaag	300
atggtcccgg	aggttgcaag	cgagaggaa	atcgaggggc	ggtcggaggc	tggaagagag	360
tccccggtac	tggtccgtcc	aaacactgtt	gaagcaagag	acagaccgcg	ggtcgacgcg	420
gccgcg						426

<210> 837

<211> 134

<212> DNA

<213> Homo sapien

<400> 837

ccagggccgt	gggccgaccc	cggcggggcc	gatccgaggg	cctcactaaa	ccatccaatc	60
ggtagtagcg	acgggcgggtg	tgtacaaagg	gcagggactt	aatcaacgca	agcttatgac	120
ccgcacttac	tggtg					134

<210> 838

<211> 538

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(538)

<223> n = A,T,C or G

<400> 838

ggcgtcctgg	tgcttaccac	ctggaaactg	gtgaggtggt	gggagaactc	ctggtggacc	60
ctagtggag	ccttccagta	atttcttgaa	gctgagcgct	caggtgagta	gggcgacatc	120
tggtggccgg	ttgttgaagg	tcatcgaga	gaggaaggaa	gccgaggagg	ggagcctgca	180
gtgagggcgt	cctgggggtt	tcgggttctc	accacccttg	ggccacgccg	tctagtccac	240
acctgaggag	ttggtcaggt	agaaggggcg	gatgaccgtg	cggaagccgt	tgaagtggcc	300
tgccgggcag	gggaaggagg	aggtgctctt	cgagctgttg	gtgtccaggg	cactgggaat	360
cgagccttc	cagccctcga	aatcggtgac	gtctgccacg	aagagccctt	cgagagcat	420
cagggctttg	ttttcgtagg	caatggtgcg	atctgagccg	ccagacttgg	tgaggcccan	480
gacagggagc	tcgtccgagg	agcaggagaa	gccgtagtct	cagcagctct	ggatggtg	538

<210> 839

<211> 351

<212> DNA

<213> Homo sapien

<400> 839

aaggcggcaa	cggtggtgaa	agatatagca	ggcctggtct	ttgtacagcg	gatgctcgtg	60
aagagggggc	gagcggtaga	accttgggtc	cttgtagccg	cggtcccagg	gcggaaagat	120
cggccgcgcc	agccagggca	cgaagtgcac	cttccccgca	aaggtgatgg	gctccagtc	180
agggatctcg	tacccctat	ccaggggagg	aggctccgac	ttccgcgtgg	agcgacgcc	240
ccactcatac	gccccgcgtc	tcggggcccc	gaagcccca	aggccgagct	gcccggagcc	300
agctagcgcc	cgccttgccg	gcccggacgc	caatgccata	ccgatctgat	a	351

<210> 840

<211> 574

<212> DNA

<213> Homo sapien

<400> 840

240

tggcctgcaa	ggccgcggac	agggcgagca	ccgagtcgta	cattttgcag	ctcatcatcc	60
ccgtgctctg	cgtgacgcag	tccatccaca	gccccttgta	catggcctgg	gccgtgatga	120
tgttgtcacc	cgcataggag	ctcatctgcc	actgcgggat	ggcgggtgcag	gccaccagac	180
ccaccagcc	cagcagggcc	atggagaagc	ccagcaactg	caggcccgaa	ttggccattt	240
ccgccctcag	aaaacactgg	gggcgcggg	cgggagaccc	tacagtaaaa	caaacgacac	300
ttggggggca	gcccacaaa	agaaaacttg	aggtggagtt	ttccggtcac	ccaaagagac	360
aaaaagggtt	tgggccaggt	gaatgcaaat	cttgtcacca	aactacacac	aaatcgaccc	420
ctccagtga	gcgatggcct	cgcggcacag	ggagtaggat	acgccgggag	ggtggttcca	480
gacaaaattg	gtggtccccg	aaggccaggc	ggttcctcc	ggcgtctcgc	gcgaccctag	540
gcaaacaaaa	ggtggagggg	ccgtctgggc	gcgt			574

<210> 841
 <211> 195
 <212> DNA
 <213> Homo sapien

<400> 841						
gacccagggg	cacaggctcc	cagatgatag	cccctctctg	aatgagcacc	caggcaaacac	60
agtcgggggc	tgtgtgtagc	aaacctgtca	gcagctgcct	cctgggacaa	ccaccccctt	120
acatgctatc	tatctaccag	acaaatgaaa	gctcttctta	ccccatctcc	caggcacccc	180
ccagcaaggg	ctctg					195

<210> 842
 <211> 207
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(207)
 <223> n = A,T,C or G

<400> 842						
cggcgcgcct	tttttttttt	ttttcgttga	aaaccaataa	tttatcaaaa	cgctgcgtgt	60
gtatgtgggg	gggaggggtg	cacancncnc	agggcagcgg	ngggcggacg	cacaggcagg	120
aaacgnggcc	cggaaagngg	gggcgggnnn	ttgccactgg	ctggccatgc	gggcggggcag	180
gctaaacatt	nttgccgcgc	aggcgca				207

<210> 843
 <211> 62
 <212> DNA
 <213> Homo sapien

<400> 843						
cgatggagcg	tgggtaggga	gggtccacag	tgtccactcg	ccgtgtgcga	aggttgactc	60
gg						62

<210> 844
 <211> 118
 <212> DNA
 <213> Homo sapien

<400> 844						
ttgggtacac	tccctggtag	cgggcccccc	cgatccggct	gccagccctg	aggccaagca	60
cggctggaga	cccacgacct	ggcctgccgt	tgcctgagc	tgcagcctcg	gccccagg	118

<210> 845
 <211> 99

<212> DNA

<213> Homo sapien

<400> 845

gtacactccc	ctggtaccgg	gccccccac	taccgagtca	accttcgcac	acggcgagtg	60
gacactgtgg	accctcccta	cccacgctcc	atcgctcag			99

<210> 846

<211> 559

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(559)

<223> n = A,T,C or G

<400> 846

cgcccgccct	tttttttttt	ttttggttgt	ggctganaat	gctggagatg	ctcagttctc	60
tccctcacia	ggtaggccac	aaattcttgg	tggtagccct	acatctgggg	tcttcaggca	120
ccagccatgc	ctgccgagga	gtgctgtcag	gacagaccat	gtccgtgcta	ggcccaggca	180
cagcccaacc	actcctcatc	caagtctctc	ccaggtttct	ggccccgatg	ggcaaggatg	240
acccctccag	tggttggtac	cccaccatcc	cactaccctc	cacatgctct	cactctccat	300
caggtcccca	atcctggctt	ccctcttcac	gaactctcaa	agaaaaggaa	ggataaaacc	360
taaataaacc	agacagaagc	agctctggaa	caaaaagtac	aaaaagacag	ccagaggtgt	420
gcgagagagg	tgaggtggcc	gcgtggacgt	gggtagataa	tcgcatgcag	cactggaact	480
cctgatgagg	ggtgggggtc	ccacttctcc	tcaaggtttg	agggattggg	gggagggggg	540
cagctgactc	ananaagta					559

<210> 847

<211> 430

<212> DNA

<213> Homo sapien

<400> 847

cgcccgccac	gctgggtttt	catcttcagg	agacgctcgt	agccctcgcg	cttctcctcg	60
gccagttcgc	ggaagaagtg	gtcacgcct	tccagagcca	catcatcgcg	gtcgaaatag	120
aagccagag	agaggtaggt	gtaggaggcc	tgcaggtaca	aattgaccag	gctgttgacg	180
gctgcctcca	cgctgggtga	ataattctga	cgaatctggg	agctcatggt	tggttggtcaa	240
gaaggagcta	accacaaaaa	cggtgctggc	aggtcccgaa	agcaggagat	ggccgagaa	300
atgggtcccg	aggttgcaag	cggagaggaa	atcggagggc	ggtcggaggc	tggaagagag	360
tccccggatc	tggtccgtcc	aaacactgtt	gaagcaagag	acagaccgcg	gggacgtcga	420
cgcggccgcg						430

<210> 848

<211> 546

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(546)

<223> n = A,T,C or G

<400> 848

agagtaaagt	gcagcctctc	cagacactgg	ggccccagt	ggcgtggg	aagttgctgg	60
taggaggagt	tgccggaagc	acttggaact	cctttataag	tgtagctgt	gagattttaa	120
tttgatttga	aatagagtaa	gtgcanaaag	acaccagttc	ancagctagc	aagtcccg	180

tcattcagcc	cagatattct	tgctgacatt	tttgaactct	ttgccaagaa	cttttcttat	240
ggcaagccac	ttaataatga	gtggcagtta	ccagatccca	gtgagatfff	cacctgtgac	300
cacactgaat	ttaatgcatt	tcttgatttg	aagaactccc	taaatgaagt	aaaaaaccta	360
ctgagtgata	agaaactgga	tgagtggcat	gagcacactg	ctttcactaa	taaagcgggg	420
aaaatcattt	ctcatgttag	aaaatctgtg	aatgctgaac	tttgtactca	agcatggtgt	480
aagttccatg	agattttgtg	cagctttcca	cttattccac	aggaagcttt	tcagaatgga	540
aaactg						546

<210> 849

<211> 196

<212> DNA

<213> Homo sapien

<400> 849

gaagtccttc	agcaggccac	gctcggacag	ggtgcgcctc	aaggacttct	ttctgatgag	60
ggggaccttg	tacatgatgc	actcagagag	cgccaccaga	cccagcagca	gcagccactt	120
catggttctt	cccgggtccc	aactcgaggg	agaaggcgctc	gacgcggccg	cgaattccac	180
cacactggac	tagtgg					196

<210> 850

<211> 543

<212> DNA

<213> Homo sapien

<400> 850

cactgatatt	ggagaaaagc	acatccggca	taaagtgtaa	accagtgtct	caaacactgg	60
aagaaccggg	agagcaaaca	tgatttttct	tatttctct	aagtaatctt	tcttttagtaa	120
aacaacaagt	gatctttggc	atagattcat	acttttaaagg	cattaatatt	gcatttatat	180
caggcaagca	actatacaaa	tatgctgagg	gccttgaaaa	taatcatcct	catttttaaag	240
gaaatagtga	aagcctgagt	gtaaaggacc	aacttaagtt	gtacacattc	gatgttggga	300
actaacacac	agcgatgggt	gggaagggaag	gatgttcagg	caaggttctt	actcctttac	360
tcatctggtt	ctggcctttg	gaaaaataa	ggtttcatgt	gctgggaaat	acttagcagt	420
aataagtacc	aaaaaggaaa	cactgccctc	tcattttgcc	tagtaggaac	ttactgtggt	480
gataagaaat	atgaaaccca	ttactctctt	gaaccccata	cttgggagta	gatgcagaga	540
gct						543

<210> 851

<211> 190

<212> DNA

<213> Homo sapien

<400> 851

aggcgagag	gatcatgtcc	gggaactgcg	gggtagtagc	gatctgggtt	accagccgt	60
tgtggccctt	gagggtgcca	cgaagggtca	tctgctcagt	catggcgggc	gcgagagcgt	120
gtgtcgctgc	agcgacgagg	atggcaactgg	atggcttaga	gaaactagca	ccacaacctc	180
tcctgccgcc						190

<210> 852

<211> 407

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(407)

<223> n = A,T,C or G

<400> 852

243

aggcctcaca	gaggcggggg	cagaaggcgg	cgacccanag	ccgccacatc	ccccgccttg	60
ggcgccgtca	cagtcccoag	acgccctgga	ctcctgcagt	ctacgaagac	gcgcggggga	120
cggcgtgggt	ccgagagagg	gcgccaaagg	cgacgtgccg	gccgccagct	ccaggccgag	180
ccccgagcgc	ctgcagggaac	aggccccctt	acccggcgcg	ggacgcagag	ctgcgagaga	240
atcttgttca	gcgcggactc	aacgccaggg	cgccgcctag	aggttggtct	ctgtctcggc	300
ctcaccgcgc	gggagaccac	agagctgctt	ccccagccgc	ccgccgccag	aaattggaaa	360
aaaaaaaaatc	cagctgggggt	ctaggaactc	ggcttctggc	acctctg		407

<210> 853
 <211> 626
 <212> DNA
 <213> Homo sapien

<400> 853						
acagtccag	tactctttgc	tcagctttcg	gggcccgcct	cgtttccgct	tcccgtgctt	60
gggatcccc	ttcttgca	cacgaaaacc	atcgctgggg	aagagcttgc	catcagtggg	120
atccaggtcc	acgtcacttc	caccggagtc	tgaggagtgg	gagctccgag	aagcaccagt	180
ccctgcgggtg	gagacgtcag	agctgcgggg	ggagggggct	cctgcgccac	agctgccggg	240
gtggtagggg	ctggcttgct	gaccgtcgtc	cagcagctcc	tgggcaaagg	ggctgccttg	300
gtcaaagggc	cctgggtcta	gggcctcctg	gaaggccatg	ccatccttct	ccagcagctc	360
aatgatccaa	ctgagctcat	cagaagagct	ggaagtgagg	tctcgcagct	gggcatggag	420
ttggtcccc	agagggccaa	agaccagacg	cagctcctca	agggcacaat	tgcagagggg	480
ggcgccatcc	atgtcacatc	gtgagaagtc	aatggcgctt	gcgtcgtact	tgttcttctc	540
cacttggtag	ctgatccagt	ccagaacctg	cgtcttcgac	cagaactggg	gctgttcccc	600
caaccagctg	gccttctctg	tacct				626

<210> 854
 <211> 218
 <212> DNA
 <213> Homo sapien

<400> 854						
atgacggctg	cccgaagccc	cccagattg	cacatggcta	tgtggagcac	tccgttcgct	60
accagtgtaa	gaactactac	aaactgcgca	cagaaggaga	tggagtatac	accttaaagt	120
ataagaagca	gtggataaat	aaggctgttg	gagataaact	tcctgaatgt	gaagcagtat	180
gtgggaagcc	caagaatccg	gcaaaccag	tgcagcgg			218

<210> 855
 <211> 50
 <212> DNA
 <213> Homo sapien

<400> 855						
gaggaacgaa	gaataaagga	gattgtgaag	aaacattctc	agttttattgg		50

<210> 856
 <211> 116
 <212> DNA
 <213> Homo sapien

<400> 856						
tccactagtc	cagtgtggtg	gaattcgcg	ccgcgtcgac	gccccgcgag	cacagagcct	60
cgcttttgcc	gatccgcgc	ccgtccacac	ccgccgccag	ctcaccatgg	atgatg	116

<210> 857
 <211> 402
 <212> DNA
 <213> Homo sapien

<400> 857

ggcgacgacc	ccaagagggga	ggtggggccac	gattttctact	tctttttttca	ccatttcgaca	60
gttccactct	tacacggcag	ccacatagtg	ttctttccatc	tagctctcgg	actgcatcag	120
ctgcatctcg	gggatcttca	aattcaacaa	aagcaaagcc	gggtgggttt	ctagcaaccc	180
acacacttcg	gagtgggtcca	tagtagccaa	aagcccgttc	caattccgtc	ttgttgccat	240
tgttttcaaag	attgcctaca	taaaccttac	agtccaatgg	acaggaatca	cgatgcattt	300
cgagatctag	ggttaaaaaa	tgcgggcggt	caaatccaca	cgctccgatg	agtcttcccg	360
ctttcctccg	gcccaacacc	aaccaacgtc	gacgcggccg	cg		402

<210> 858

<211> 172

<212> DNA

<213> Homo sapien

<400> 858

acattttatg	acctctccca	ataggggcag	aggtgagcac	ccctgggtgaa	aagttaagac	60
tcagttagta	taaatacgcc	aagaagagct	gtggcttctt	tcactgggtg	cctcagaaag	120
gctgtgagca	gtgttggtgg	catacctgtc	acagcatcta	gcaaagcacc	tg	172

<210> 859

<211> 196

<212> DNA

<213> Homo sapien

<400> 859

aggcggagag	gatcatgtcc	gggaactgcg	gggtagtagc	gatctggggt	acccagccgt	60
tgtggccctt	gaggggtgcca	cgaagggtca	tctgctcagt	catggcgggc	gcgagagcgt	120
gtgtcgctgc	agcgacgagg	atggcactgg	atggcttaga	gaaactagca	ccacaacctc	180
tcctgccgcc	ggtcga					196

<210> 860

<211> 538

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(538)

<223> n = A,T,C or G

<400> 860

ggcgtcctgg	tgcttaccac	ctggaaactg	gtgaggtggt	gggagaactc	ctggtggacc	60
ctagtggaag	ccttccagta	atttcttgaa	gctgagcgct	caggtgagta	gggcgacatc	120
tggtggccgg	ttgttgaagg	tcattgcaga	gaggaaggaa	gccgaggagg	ggagcctgca	180
gtgagggcgt	cctgggggttc	tccggttctc	accacccttg	ggccacgccg	tctagtccac	240
acctgaggag	ttggtcaggt	agaaggggcg	gatgaccgtg	cggaagccgt	tgaagtgcc	300
tgccgggcag	gggaaggagg	aggtgctctt	cgagctgttg	gtgtccaggg	cactgggaat	360
cgcagccttc	cagccctcga	aatcggtgac	gtctgccacg	aagagccctt	cgcagagcat	420
cagggctttg	ttttcgtagg	caatggtgcg	atctgagccg	ccagacttgg	tgaggcccan	480
gacagggagc	tcgtccgagg	agcaggagaa	gccgtagttc	cagcagctct	ggatggtg	538

<210> 861

<211> 204

<212> DNA

<213> Homo sapien

<400> 861

aggcggagag	gatcatgtcc	gggaactgcg	gggtagtagc	gatctggggtt	acccagccgt	60
tgtggccctt	gaggggtgcca	cgaaggggtca	tctgctcagt	catggcgggcg	acgagagcgt	120
gtgtcgctgc	agcgacgagg	atggcactgg	atggccttaga	gaaactagca	ccacaacctc	180
tcctgccgcg	tcgacgcggc	cgcg				204

<210> 862

<211> 217

<212> DNA

<213> Homo sapien

<400> 862

aatgtcaggg	gtgttggggg	ctttggctgg	gtcctgggtc	ttcgtgtaga	gacctggagg	60
cgcttggttc	ttgggggttct	ccaggattcc	agcctogtag	ctgatgtgca	tgaggttctc	120
atccatgctc	cacgggttct	tgggagtgc	cgggatggga	atcccgtgtt	gctttgcgta	180
ctccatcagg	tcattgcggc	ccttgaaccg	gttgtag			217

<210> 863

<211> 192

<212> DNA

<213> Homo sapien

<400> 863

aggcggagag	gatcatgtcc	gggaactgcg	gggtagtagc	gatctggggtt	acccagccgt	60
tgtggccctt	gaggggtgcca	cgaaggggtca	tctgctcagt	catggcgggcg	gcgagagcgt	120
gtgtcgctgc	agcgacgagg	atggcactgg	atggccttaga	gaaactagca	ccacaacgtc	180
gacgcggccg	cg					192

<210> 864

<211> 147

<212> DNA

<213> Homo sapien

<400> 864

tttccccttg	aagaagtaga	cccgctcccg	gccactgtag	ctatgggcag	ggagggccaa	60
ggctgcatcc	acgttgctccg	ggatgccatc	gaagccgtca	gagatatttc	gggggtaatc	120
aggggtccagg	acaccatcct	caaagcg				147

<210> 865

<211> 446

<212> DNA

<213> Homo sapien

<400> 865

cggcgcgtgg	acttggtctg	agctgtgagg	ggtgggaggg	gaggatagca	ccggaagatg	60
ctgtcccggg	cccaacacca	gccctggcca	ggctctcccc	tcccaggggc	agcgcccagt	120
ccccaggggc	tgccagagcc	ctgtgtgcct	tgccgcattc	ccctgatgca	gcttttgga	180
actgaaaggc	agggctctcg	ctgagtgcac	ctggggcttc	ctgagcccat	ctgcggcggc	240
cccaccctgg	cctaggtgct	gagtgcagct	gctgcagaca	gcccctccct	ccttagtgga	300
gcctggaggg	tgggggtgctc	ggggatgcag	gcaggggcag	gggctccaga	gccacaggtc	360
agaagcaggg	ctgggggaggg	ggtggagcca	ttcagcctca	ggcaccctca	cagctaggtg	420
actaggggca	gggacagaat	ggggtg				446

<210> 866

<211> 87

<212> DNA

<213> Homo sapien

<400> 866

246

tccctcaact	ggaccatggg	cctgcccacc	gacaatggcc	acgacagcga	ccagggtgttt	60
gagttcaacg	gcacccaggc	agtgagg				87

<210> 867

<211> 123

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(123)

<223> n = A,T,C or G

<400> 867

cncctggtac	cgggcccccc	cactttaaaa	tcttttggtta	agaaatagga	aagattagga	60
aatatcatat	tgcacctgaa	atgctgcagc	aggggttttt	gtttgcttgt	ttttgtcctt	120
cag						123

<210> 868

<211> 634

<212> DNA

<213> Homo sapien

<400> 868

caggctgcgg	taggtggcaa	tctcctgctc	cagccgcgac	ttgatgtcca	tgagccgctg	60
gtactcctga	ttctgccgct	cactatcagc	tgcacatcgc	cccagctggg	cttcaatacc	120
gctgatcagc	gcctggatat	gcgccagctg	ggctccaaag	cgcgctcccg	tttctgccag	180
tgtgtcttcc	aaggcagctt	tcatgctcag	ctgtgactgc	agctcaatct	caagaccctg	240
aagggtgcgc	cgcaggctcag	taacctcgga	cctgctcatc	tggagctgct	ccgtgtggcc	300
agcgacctcc	cggttcaatt	cttcagtccg	gctgggtgaac	caggcttcag	catccttccg	360
gttctgctcg	gccatgacct	catattggct	tgcgatgtca	ctcaggatct	tggcgagatc	420
ggtgcccggg	gcggaatcca	cctccacact	gacctggcct	cccacttggc	ccctcagcgt	480
actgatttcc	tcctcatggt	tcttcttcag	gtaggccagc	tcttccttca	ggccttcgat	540
ctgcatctcc	aggtcgggtcc	tggccagggt	cagctcatcc	agcaccctgc	gcaggccggt	600
gatgtcggcc	tccacgctca	tgcgcagagc	ctgt			634

<210> 869

<211> 197

<212> DNA

<213> Homo sapien

<400> 869

aggcggagag	gatcatgtcc	gggaactgcg	gggtagtagc	gatctggggtt	accagccggt	60
tgtggccctt	gagggtgcca	cgaagggtca	tctgctcagt	catggcgggc	gcgagagcgt	120
gtgtcgctgc	agcgacgagg	atggcaactgg	atggcttaga	gaaactagca	ccacaacctc	180
tcctgccgcc	gtcgacg					197

<210> 870

<211> 579

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(579)

<223> n = A,T,C or G

<400> 870

cggccgccct	tttttttttt	tttttttttt	tttttatggg	gccaatttta	aatagtttta	60
tttaagacat	tgcattttcc	acttacaata	cagtgtttat	aaagtgcaat	gttatttcct	120
tcacctgtgc	atatgttcca	tattcaagta	ttganaatgc	ccagtaactt	actatagcag	180
cttaactttt	taaaactgcc	acagaatttg	ctacnaattt	aggnccttca	aatgttttaa	240
atgtgnggaa	caatgctaca	tntacacttg	gntggcttaa	tcaacctntt	caatgggggg	300
cctgagggaa	gcncnccag	agggaggagc	tccaccacca	ggaaatcccc	caggcattcc	360
tcctggcatg	cctcctgcac	tntggtacag	cttgggtgatg	atgggggttgc	aaactttctc	420
cagctntttc	tgntgatgtt	caaattcttc	cttctcagca	gtctgattnt	tatcaagcca	480
gnngataatt	tcattacact	tgtccanaat	cttctgtntg	ncctcatcgn	taatcttgcc	540
ttgaagtttc	tcattcttcaa	cagntgcttt	catgttgaa			579

<210> 871

<211> 518

<212> DNA

<213> Homo sapien

<400> 871

ctttctcctt	cttatagacg	ttccggacgg	gcatgaccgg	tccggtcagc	tgggtggcca	60
gtttcagttc	ttcagcagaa	ctgtctccct	tcttgggggc	cgagggcttc	ctggggaaga	120
ggatgagttt	ggagcggtag	tccttcagcc	gctgcacgtt	ggcctgcagg	gactccgtgg	180
acttgttccg	cctcctcgga	tccacagaaa	tgccgatggg	ccggggccacc	ttcttggtgaa	240
tgccggccac	cctgagctcc	tccaggctga	agccgcggcc	ggcgcgcacc	ttcgtgtggt	300
accgaaccgt	ggggcagcgc	acgatggggc	ggatggggac	cgacgcgggg	cgcggggcga	360
tgcggcgcgc	cttggcttgc	cgggccttac	gtctgcggat	cttacggggc	ggctgggtga	420
accacgtggc	cacgcgcgcg	tgccagtcct	tgtggaagtg	gggcttcaag	accatgccat	480
tccggctggg	cgccatggct	gcctacggcc	ctgcggct			518

<210> 872

<211> 404

<212> DNA

<213> Homo sapien

<400> 872

ctaaacactg	tccagcgcag	gggggtgcta	gggaggtagc	gtgacaacac	gatggctgcg	60
atgcctgaag	tgatgaccac	gatggcggaa	gtgacagaga	ggatgttgac	cacgcagtac	120
tgcagagcca	ccgcatcttg	aggggtgccc	acgtagcgca	gcactgtgcc	atggaacagg	180
gcagctgtga	tgaagctcac	atggcccagc	accaccagca	ccaggcctgt	cttcatcagc	240
accttccgga	agtcgccac	actcaggcct	ccgaggcgca	gacacatgtc	ggctccgcgc	300
tgggtcccgc	cccggcttca	gcgcggctcc	cgaggctgcg	ggccgcgggg	ggaccctgct	360
cccatcccgc	tggcccgtcg	cccgcgcgcc	ccgcaccgtc	gcgt		404

<210> 873

<211> 175

<212> DNA

<213> Homo sapien

<400> 873

ggctgccagc	gcctctaccc	cgtgctgcag	cagagcctgg	tgcgggcccgc	ccgcgcgagg	60
ggcgcgcgcg	cccagccctg	aaccagaagc	ctgagcaact	acggacgcaa	gccgaggacc	120
gtgctgccgc	cgtccacgaa	aagacccgcg	ccatcggcct	ccagtttgcg	tcgag	175

<210> 874

<211> 215

<212> DNA

<213> Homo sapien

<400> 874

ggtagagaac	cctgcggctg	cgctttcggt	gcccgcgaga	ggcgtgggg	cgcccggcag	60
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248

gggccgctgc	gggctccggg	agaggggtcga	aggtgaagat	ctcaggaccg	gagccccgcc	120
gggggtcccg	gatgggtggag	ggggccgggg	tcggggcctg	caggatggtc	atggtcgggt	180
ggcagctgcg	agagtgacac	atgggtgagcc	gagcg			215

<210> 875
 <211> 208
 <212> DNA
 <213> Homo sapien

<400> 875						
atccagagac	aatctgccgg	ttgtcagagg	agaaggccac	actcagcaca	tccttggtat	60
ggcccacaaa	tcgcctcgtg	gtgggtcccc	ttgtgagatc	ccagaggcgc	agggttccat	120
cccaggagcc	tgagagggca	aactggccat	ctgaggagat	aaccacatca	ctaacaaagt	180
gggagtgacc	ccgcagagca	cgctgtgg				208

<210> 876
 <211> 484
 <212> DNA
 <213> Homo sapien

<400> 876						
gagcagctgg	tttctcctgg	acagcagcat	ctggctccgc	tcccttcgga	actccaggta	60
ctccttattg	tttttgagct	tgttcatgca	gtccatgagg	gctgggtagc	cacctgagaa	120
tcgccacagg	tgcactgcct	ggtcctgctc	cccataccac	gtgttccagt	tgcccacgag	180
tgagcatggg	tagtcctcat	ccagggtgaag	cttgggcagc	acagcctccg	tgaggctgtt	240
gtaggcattc	aggtattcag	gctttacatt	gtgaaactgg	atcttataga	ggttgctggg	300
ttccttcttg	gacagcaggg	tggagtgggc	atccttccgg	ggatccactt	tgtgaacaaa	360
gagggagcgg	aaccagctgc	cttcattgtc	cttggaatag	aaacgcgccg	cagctgcaga	420
cgcaacgtcc	ccagcgcgag	gccccggggc	ccccagcagc	cgccgcgccg	tcacagagat	480
gctg						484

<210> 877
 <211> 558
 <212> DNA
 <213> Homo sapien

<400> 877						
ggcgtcctgg	tgcttaccac	ctggaaactg	gtgaggtggg	gggagaactc	ctggtggacc	60
ctagtggaa	ccttccagta	atttcttgaa	gctgagcgct	cagggtagta	gggcgacatc	120
tggtggccgg	ttgttgaagg	tcattgcaga	gaggaaggaa	gccgaggagg	ggagcctgca	180
gtgagggcgt	cctgggggtt	tccggttctc	accacccttg	ggccacgccg	tctagtccac	240
acctgaggag	ttggtcaggt	agaagggggc	gatgaccgtg	cggaagccgt	tgaagtgcc	300
tgccgggcag	gggaaggagg	aggtgctctt	cgagctgttg	gtgtccaggg	cactgggaat	360
cgcagccttc	cagccctcga	aatcggtgac	gtctgccacg	aagagccctt	cgcagagcat	420
cagggccttg	ttttcgtagg	caatgggtgc	atctgagccg	ccagacttgg	tgaggcccag	480
gacagggagc	tcgtccgagg	agcaggagaa	gccgtagtct	cagcagctct	ggatgggtggg	540
gaggtagacc	agggacca					558

<210> 878
 <211> 503
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(503)
 <223> n = A,T,C or G

<400> 878
 cggccgcaac cgcgcgaacc cgaagtcgat gattttcacc ggggccccgg gcgtgtcgtc 60
 ggcgtacagg atgtttctccg gcttgaggtc gcggtgcacc acgcccgcct cctcgtgcat 120
 gaagctcacg gncgacacga ggctgcgcag gatctggctt gcttccgact cgctgaagtg 180
 ccgcntcttg cggatgtgct ccagcagctc cccgccccgc agcagctcca ggaccaggta 240
 cgtgtgcagc tggtcgtgat gcacctcgtg cagattcacc acgttggggg gtgactggca 300
 caggcgcagg gcagccactt cgcgctgcgt gttcgcctcc agcctgcgac tgaggatctt 360
 gactgcgaac tcctggccgc tctggcgctg gcggcagcgg cgacacacag aaaagctgcc 420
 ctggcccagc gcaggctccc gcaggctccag ctcgctactgc tgaagaagg gcgagtcctg 480
 catcatagcg ctccctggcca ccg 503

<210> 879
 <211> 78
 <212> DNA
 <213> Homo sapien

<400> 879
 ctgcctcggc tggcggggcg ggggaggcgg agagctcggg gcacgcgctg ccgtccggac 60
 cgcgtcgacg cggccgcg 78

<210> 880
 <211> 211
 <212> DNA
 <213> Homo sapien

<400> 880
 tgatgtgggc gattgatgaa aaggcgggtg aggcgtctgg tgagtagtgc atggctagga 60
 atagtctctgt ggtgatttgg aggatcaggc aggcgccaag gagtgagccg aagtttcatc 120
 atgcggagat gttggatggg gtggggagggt cgatgaatga gtgggttaatt aattttatta 180
 ggggggttaat tttgcggtcg acgcggccgc g 211

<210> 881
 <211> 373
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(373)
 <223> n = A,T,C or G

<400> 881
 cccacagtgg cttgtttccg cagtgcgcgg ccgtcannac ccaactctgg tccaccagga 60
 caccgcgcga gtggaacgag aggcggtnga agagcgagac ctgccagggc tgcgagccgc 120
 gcgcgcacgg ggcgccatag gcttcggggg ccaagcgcgt gtcgttttgg gggagcagcg 180
 ccgcctctgc ggcccagagt tgcgccatca gcagcggcag cagcttcgcc agagcccggg 240
 cgccagaggc ggcggagagg tggagggtgc gagctctcat ggccaggatc tgggagtcgc 300
 cgataggaag gagggagggg acccagacgt gcctntgccc tgcctgtggg ctgccgcgctc 360
 cgacacggcc gcg 373

<210> 882
 <211> 300
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(300)

250

<223> n = A,T,C or G

<400> 882

cggccgcggtt	tttttttttt	ttttcagaca	attcagcctt	tattttanaa	aataattctg	60
tagcttccac	tttctttcat	gaaactgagg	tcaggcaaga	aacaaaaatc	caccaagtcc	120
totccatcct	gccatggcgt	cctggcctgt	gaggacatgg	ggcgccctggg	agcgggagg	180
gaggctgggc	agcactgggc	cagaggcgtc	ctggtcactg	ctccacctgg	tactgtctcc	240
acctcatgct	gagaggagcc	tgtgtgtcaa	acccagggg	aaaaaggac	aggcagatcg	300

<210> 883

<211> 230

<212> DNA

<213> Homo sapien

<400> 883

ggtagagaac	cctgcggctg	cgctttcggg	gcccgcgaga	ggcgctgggg	cgccccggcag	60
gggccgctgc	gggctccggg	agagggtcga	aggtgaagat	ctcaggaccg	gagccccgcc	120
gggggtcccg	gatggtggag	ggggccgggg	tcggggcctg	caggatgggc	atggtcgggt	180
ggcagctgcg	agagtgcac	atggtgagcc	gagcggtcga	cgcgcccgcg		230

<210> 884

<211> 601

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(601)

<223> n = A,T,C or G

<400> 884

gcccccaatt	ccagctgcca	caccacccac	ggtgactgca	ttagttcgga	tgtcatacaa	60
aagctgattg	aagcaacct	ctactttttg	gtcgtgagcc	ttttgcttgg	tgcaggtttc	120
attggctgtg	ttggtgacgt	tgtcattgca	acagaatggg	ggaaaggcac	tggttctctt	180
gaagtagggg	gagtcctcaa	aatccgtata	gttgggtgaag	ccacagcact	tgagcccttt	240
catggtgggt	ttccacactt	gagtgaagtc	ttcctgggaa	ccataatctt	tcttgatggc	300
aggcactacc	agcaacgtca	ggaagtgtc	agccattgtg	gtgtacacca	aggcgaccac	360
agcagctgca	acctcagcaa	tgaagatgag	gaggaggatg	aagaagaacg	tcacgagggc	420
acacttgctc	tcagtcttag	caccatagca	gcccaggaaa	ccaagagcaa	agaccacaac	480
gccggctgcg	atgaggaagt	agcccacgtt	gacaaactgc	atggcactgg	acgacagtgg	540
cccgaagatc	ttcanaaagg	atgccccatc	gattgacacc	cagatgcccc	ctgccaacag	600
g						601

<210> 885

<211> 207

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(207)

<223> n = A,T,C or G

<400> 885

caggcggaga	ggatcatgtc	cgggaaactgc	gggtagtag	cgatctgggt	taccagccg	60
ttgtggccct	tgagggtgcc	annaagggtc	atctgctcag	ncatggcggc	ggcgagagcg	120
tgtgtcnntg	cagcgacgag	gatggcactg	gatggcttag	agaaactagc	accacaacct	180
ctctgcccgc	cggtcgcgac	ggccgcg				207

<210> 886

<211> 442

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(442)

<223> n = A,T,C or G

<400> 886

cancttatan	aaanggnaaa	ggaaacccca	acatgcntgc	nctgccttgg	tgaccagggg	60
agtcacccca	cggctatggg	gaaattancc	cgaggcttag	ctttcattat	cactgtctcc	120
cnnggtgtgc	ttgtcaaaga	gatattccgc	cnagccanac	tcgggcgctc	ccatcttgcg	180
caagttgggc	acgtgggcac	ccaattcttt	gatggctttc	acctgctcat	tcaggtaatg	240
tgtctcaatg	aagtcacaca	aatggggggtc	atTTTTgtca	gnngccagtt	tgtgcagttc	300
cagtagtgac	tgattcacat	TTTTTTccaa	atgtaatgca	cactccattg	cattcagccc	360
gctctcccag	tcatcacagt	ctggtttntt	gatatcctga	aggaagattc	ggccacctcg	420
tnggttctgc	agcttcatca	gt				442

<210> 887

<211> 222

<212> DNA

<213> Homo sapien

<400> 887

gctcaggctc	caaagccagc	aggaaagagg	tagctcgga	cgtggagccg	ccgcccaggt	60
gcgccaggac	cacctcggcc	gtcaccttag	ccagggtggc	gcttaggtcc	actgtgcgct	120
tcacgtcctc	attgatcagc	ggcgggtgct	cggaggaggc	gctgcccggc	gccggggccc	180
aagtcccaag	caacaggagc	agaaacaagc	cggcgggtgg	cg		222

<210> 888

<211> 89

<212> DNA

<213> Homo sapien

<400> 888

ggtggcgtag	cgcccgctta	taaagccgca	acaccttttg	ctgatgggtc	aggtagggtc	60
ccgacgcca	gaacgccatt	acggccgcg				89

<210> 889

<211> 451

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(451)

<223> n = A,T,C or G

<400> 889

gcggncgctg	gacttggtt	gagctgtgag	gggtgggagg	ggaggatagc	accggaagat	60
gctgctccgg	gcccacacc	agccctggcc	aggctctccc	ctcccagggg	cagcgcccag	120
tcccagggg	ctgccagagc	cctgtgtgcc	ttgccgcatt	cccctgatgc	agcttttggc	180
aactgaaagg	cagggctctc	gctgagtgca	cctggggctt	cctgagccca	tctgcggcgg	240
ccccaccctg	gcctaggtgc	tgagtgcagc	tgctgcagac	agcccctccc	tccttagtgg	300
agcctggagg	gtgggggtgct	cggggatgca	ggcaggggca	ggggctccag	agccacaggt	360

252

cagaagcagg gctgggggag ggggtggagcc attcagcctc aggcaccctc acagctaggt 420
gactaggggc agggacagaa tggggtgaat t 451

<210> 890
<211> 66
<212> DNA
<213> Homo sapien

<400> 890
tccactagtc cagtgtggtg gaattcgagg ccgcgtcgac ctgctgcctc acccacagct 60
tttgat 66

<210> 891
<211> 599
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(599)
<223> n = A,T,C or G

<400> 891
gggcgtcctg gtgcttacca cctggaaact ggtgaggtgg tgggagaact cctggtggac 60
cctagtggaa gccttcaggt aatttcttga agctgagcgc tcaggtgagt agggcgacat 120
ctggtggccg gttgttgaag gtcattgcag agaggaagga agccgaggag gggagcctgc 180
agtgagggcg tcctggggtt ctccggttct caccaccctt gggccacgcc gtctagtcca 240
cacctgagga gttggtcagg tagaaggggc ggatgaccgt gcggaagccg ttgaagtgcc 300
ctgccgggca ggggaaggag gaggtgctct tcgagctggt ggtgtccagg gcaactgggaa 360
tcgcagcctt ccagccctcg aaatcggtga cgtctgccac gaagagccct tcgcagagca 420
tcagggtctt gttttcgtag gcaatggtgc gatctgagcc gccagacttg gtgaggccca 480
ggacagggag ctgcgtccgag gagcaggaga agccgtagtt ccagcagctc tggatggtgg 540
ggaggtagac cagggaccag gacaccctct tgtcctggaa gangaagctg ggggtgttgt 599

<210> 892
<211> 113
<212> DNA
<213> Homo sapien

<400> 892
gtctcaaaca ggaccgcatt tccggcattt cggctggtgt ccgtgttagt ggccacctgg 60
gccagcaagt cattcatggt ctactgctc tcctcgtggt tccggcccag gat 113

<210> 893
<211> 208
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(208)
<223> n = A,T,C or G

<400> 893
gaggcggaga ggatcatgtc cggaactgc ggggtagtag cgatctgggt taccagccg 60
ttgtggccct tgagggtgcc acgaagggtc atctgctcag tcatggcgcc ggcgagagcg 120
tgtgtcgtg cagcgacgag gatggcactg gatggcttan agaaactagc accacaacct 180
ctcctgcggc tcgacgcggc cgcaatt 208

<210> 894

<211> 67

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(67)

<223> n = A,T,C or G

<400> 894

gcgatgganc	gtgggtaggg	agggtccaca	gtgtccactc	gccgtgtgcg	aaggttgact	60
cggtagt						67

<210> 895

<211> 58

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(58)

<223> n = A,T,C or G

<400> 895

gcggccgccc	tttttttttt	tttttttttt	tttttttttt	ttttttcccn	cnctaaaa	58
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<210> 896

<211> 177

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(177)

<223> n = A,T,C or G

<400> 896

gacattttat	gacctctccc	aatnggggca	gaggtgagca	cccctggtga	aaagttaaga	60
ctnagtgagt	ataaatacgc	caanaanagc	tgtggcttct	ttcactggtg	tcctcagaaa	120
ggctgtgagc	agtgttggtg	gcatacctgt	cacagcatct	agcaaagcac	ctgaatt	177

<210> 897

<211> 542

<212> DNA

<213> Homo sapien

<400> 897

gctttctcct	tcttatagac	gttccggacg	ggcatgaccg	gtccggtcag	ctgggtggcc	60
agtttcagtt	cttcagcaga	actgtctccc	ttcttggggg	ccgagggctt	cctggggaag	120
aggatgagtt	tggagcggta	ctccttcagc	cgctgcacgt	tggctctgag	ggactccgtg	180
gacttgttcc	gcctcctcgg	atccacagaa	atgccgatgg	tccggggccac	cttcttgtga	240
atgccggcca	ccctgagctc	ctccaggctg	aagccgcggc	cggcgcgcac	cttcgtgtgg	300
taccgaaccg	tggggcagcg	cacgatgggc	cggatgggac	ccgacgcggg	gcgcggggcg	360
atgcggcgcg	ccttggtctg	ccgggcctta	cgtctgcgga	tcttacgggc	cggctggttg	420
aaccacgtgg	ccacgcgcgg	ctgccagtcc	ttgtggaagt	ggggcttcaa	gaccatgcca	480
ttccggctgg	gcgccatggc	tgcctacggc	cctgcggctc	ctggtcgacg	cggccgcgaa	540

tt

542

<210> 898
 <211> 165
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(165)
 <223> n = A,T,C or G

<400> 898
 tancnatctg ggttacccag ccgttggtggc ccttgagggn gccacgaagg gtcattctgct 60
 cagtcattggc ggcggnana gcgtgtgtng ctgcancgac gaggatggca ctggatggct 120
 tanagaaact agcaccacaa cctctcgtcg acgcggccgc gaatt 165

<210> 899
 <211> 67
 <212> DNA
 <213> Homo sapien

<400> 899
 tccactagtc cagtgtggtg gaattcgcg ccgcgtcgac gctgctgcct caccacagc 60
 ttttgat 67

<210> 900
 <211> 77
 <212> DNA
 <213> Homo sapien

<400> 900
 cttccaggtc cagagctccc aggtttccag gttgcagtcc ctccagtccc agagctccca 60
 gggtttcggt ttccagt 77

<210> 901
 <211> 114
 <212> DNA
 <213> Homo sapien

<400> 901
 gggccgggga ggacggctgg gggctccggg gtcgcctgca caattgcctg agcaggaggc 60
 gcaagtggga gatgacgata aaggcgggg ccagcgcggg ccgagagtgg aatt 114

<210> 902
 <211> 64
 <212> DNA
 <213> Homo sapien

<400> 902
 tacactactc ctgaggatgc tactcccag cccggagagg acccacgcgt gacccgggccc 60
 aagt 64

<210> 903
 <211> 63
 <212> DNA
 <213> Homo sapien

<400> 903
 tcaaaagctg tgggtgaggc aggtcgacgc ggccgcgaat tccaccacac tggactagtg 60
 gat 63

<210> 904
 <211> 142
 <212> DNA
 <213> Homo sapien

<400> 904
 tcctcagcca gggagacagg gaccaggcag cacaggcctg ccagcaggag gatgccccac 60
 gagacagaag acggcattgt cgattcactg tcccagggtca ggtcgacgcg gccgcgaatt 120
 ccaccacact ggactagtgg at 142

<210> 905
 <211> 101
 <212> DNA
 <213> Homo sapien

<400> 905
 tccactagtc cagtgtggtg gaattcgcgg ccgcgtcgac gccacctccg agagcctgga 60
 tgtgatggcg tcacagaaga gacctccca gaggcacgga t 101

<210> 906
 <211> 506
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(506)
 <223> n = A,T,C or G

<400> 906
 gcggccgcac acacagccag gcgctaggct ccctgcggga cctcggaag ggggaagagc 60
 gtcaacaatt tacggagggg ccagccgctg ggtcagattg agacaaacca ttgtgtggtt 120
 gggtttgggt cagcaggctg gagagggttc tgttcttttt gatcattatc gtttggggcc 180
 ccaagggagg gtcttgggag ccacctgagc cccaaagctg ggaaattcct canagctgct 240
 catgtcagga gccttctcac tgcgtctggc ggnccagggt gcgtcccga ccacaaagcc 300
 tntggaaggt gccttggcct ctctgtgtgc tggggggttc atgtatacct gcagcgctc 360
 actgtccacc acgtcagcta ggtattcctc ctccagattg aggatgtggt cgatggcttc 420
 ctccacattc tctgggagcc ccgtcacagt gacgcagttg gggctctggg ctccgctctg 480
 tgggaagcga atgtccacct tgaatt 506

<210> 907
 <211> 93
 <212> DNA
 <213> Homo sapien

<400> 907
 tcccgtgca caagttcacg tccatccgcc ggaccatgtc ggagggttggg ggctctgtgg 60
 aggacctgat tgccaaaggc cccgtctcaa agt 93

<210> 908
 <211> 238
 <212> DNA
 <213> Homo sapien

<400> 908
 gggtagagaa ccctgcggt ggcgtttcgg tgcccgcgag aggcgctggg gcgcccggca 60
 ggggccgctg cgggctccgg gagagggctg aaggtgaaga tctcaggacc ggagccccgc 120
 cgggggtcccg ggatggtgga gggggccggg gtcggggcct gcaggatggt catggtcggg 180
 tggcagctgc gagagtgaca catggtgagc cgagcggagg tcgacgcggc cgcgaatt 238

<210> 909
 <211> 190
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(190)
 <223> n = A,T,C or G

<400> 909
 gggcgctcctg gtgcttacca cctgnaaact ggtgaggtgg tgggagaact cctggngggac 60
 cctagtggaa gccttcagat aatttcttga anctgancgc tcaggtgagt agggcgacat 120
 ctggngggccg gntgttnaan gtcattgcnn anaggaagga agccgaggag gggancctgc 180
 ngtgagggcg 190

<210> 910
 <211> 93
 <212> DNA
 <213> Homo sapien

<400> 910
 tcccgctgca caagttcacg tccatccgcc ggaccatgtc ggaggttggg ggctctgtgg 60
 aggacctgat tgccaaaggc cccgtctcaa agt 93

<210> 911
 <211> 261
 <212> DNA
 <213> Homo sapien

<400> 911
 gggtcggtca gggctgaaga cctgcccagg cacacaactc accacggccg gtagccatt 60
 ctgcaggtg acattcttca tggggctccag tgacacctgg gggcccagct tgcagctgga 120
 gatgtgggccc tctgtgccgg tgcagtcctat ggagaatggc cagtagcgct gcttcctccg 180
 tgaggcaaac attttgtaca ctttggtatt gtatgtcttc tccccaggga agccaaacat 240
 gccgcagacc acgcgggaat t 261

<210> 912
 <211> 67
 <212> DNA
 <213> Homo sapien

<400> 912
 gcgatggagc gtgggtaggg aggggtccaca gtgtccactc gccgtgtgcg aaggttgact 60
 cggtagt 67

<210> 913
 <211> 545
 <212> DNA
 <213> Homo sapien

<400> 913

gctttctcct	tcttatagac	gttcoggacg	ggcatgaccg	gtccggtcag	ctgggtggcc	60
agtttcagtt	cttcagcaga	actgtctccc	ttcttggggg	ccgagggctt	cctggggaag	120
aggatgagtt	tggagcggta	ctccttcagc	cgctgcacgt	tggcctgcag	ggactccgtg	180
gacttggttc	gcctcctcgg	atccacagaa	atgccgatgg	tcggggccac	cttcttggtg	240
atgccggcca	ccctgagctc	ctccaggctg	aagccgcggc	cggcgcgcac	cttcgtgtgg	300
taccgaaccg	tggggcagcg	cacgatgggc	cgatgggac	ccgacgcggg	gcgcggggcg	360
atgccggcgc	ccttggttgg	ccgggcctta	cgtctgcgga	tcttacgggc	cggctggttg	420
aaccacgtgg	ccacgcgcgc	ctgccagtcc	ttgtggaagt	ggggcttcaa	gaccatgcca	480
ttccggctgg	gcgccatggc	tgcttacggc	cctgcggctc	ctgcgcgtcg	acgcggccgc	540
gaatt						545

<210> 914

<211> 295

<212> DNA

<213> Homo sapien

<400> 914

gctcggcatc	agaccagttc	ctcagcttcc	tgaagtaacc	atagcaattg	gacttggtgg	60
aaaaccatcc	aggagcacag	ctgggtctca	tgatgatata	accaggact	cctgttttgg	120
ccaggcagct	cagcaatagg	agcagccgca	tgcttctgga	agccatcttc	ctcctaccct	180
gaggatgtag	ctagtgcaag	gatctcagag	accttactag	cgtttctttg	aaactcctgg	240
gttctccttg	atctgcaaat	ctgtttggca	accaaggctc	acgcggccgc	gaatt	295

<210> 915

<211> 391

<212> DNA

<213> Homo sapien

<400> 915

gctaaacact	gtccagcgca	ggggggtgct	agggaggtag	cgtgacaaca	cgatggctgc	60
gatgcctgaa	gtgatgacca	cgatggcgga	agtgcagag	aggatgttga	ccacgcagta	120
ctgcagagcc	accgcactct	gaggggtgcc	cacgtagcgc	agcactgtgc	catggaacag	180
ggcagctgtg	atgaagctca	catggccag	caccaccagc	accaggcctg	tcttcatcag	240
caccttcggg	aagtgcgcca	cactcaggcc	tccgagggcg	agacacatgt	cggctccgcg	300
ctggctccgc	cccggcttc	agcgcggctc	ccgaggtgc	gggcccgcgg	gggaccctgc	360
tcccatcccg	ctgtcgacgc	ggccgcgaat	t			391

<210> 916

<211> 559

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(559)

<223> n = A,T,C or G

<400> 916

gggcgtcctg	gtgcttacca	cctggaaact	ggtgaggtgg	tgggagaact	cctggtggac	60
cctagtggaa	gccttccagt	aatttcttga	agctgagcgc	tcaggtgagt	agggcgacat	120
ctggtggccg	gttggtgaag	gtcattgcag	agaggaagga	agccgaggag	gggagcctgc	180
agtgagggcg	tcctgggggt	ctccggttct	caccaccctt	gggccacgcc	gtctagtcca	240
cacctgagga	gttggtcagg	tagaaggggc	ggatgaccgt	gcggaagccg	ttgaagtgcc	300
ctgccgggca	ggggaaggag	gaggtgctct	tcgagctgtt	ggtgtccagg	gcactgggaa	360
tgcagccctt	ccagccctcg	aaatcgggtga	cgtctgccac	gaagagccct	tcgcagagca	420
tcagggcttt	gttttcgtag	gcaatggtgc	gatctgagcc	gccagacttg	gtgaggccca	480
ggacagggag	ctcgtccgag	gagcaggaga	agccgtagtt	ccagcagctc	tggatggngg	540
ggangtagac	cagggacca					559

<210> 917
 <211> 447
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(447)
 <223> n = A,T,C or G

<400> 917
 gctccttggc gagcacgtga ccccggcggg cacgcaggag ggcaggcagg cccctgcgca 60
 ggcgctgggt ggactgcttc caggtgtcat attggaagaa cttgcccacg gggatatctgg 120
 ggaagttgtc cggaagcacg gtcggagggg tcgacacgtc cctctcggac ttggcggggg 180
 tagcacagta cgtctccagg agggccagg cacagctgcg gaaacagcac tcctcaacga 240
 tgccacggct ggcacggctc acacggcttg cgggcctgct gaantanaag ccgcggtccc 300
 cacagacgaa ctggagggtg tccaccagct ccccgncgca caggggtctca ctggggcggn 360
 aagcagcaat gcancacgag gcgaaggcca anaaggngan aagcaccanc atcgacttcc 420
 ccattgggat tcccattggt gtctgga 447

<210> 918
 <211> 574
 <212> DNA
 <213> Homo sapien

<400> 918
 gctccttggc gagcacgtga ccccggcggg cacgcaggag ggcaggcagg cccctgcgca 60
 ggcgctgggt ggactgcttc caggtgtcat attggaagaa cttgcccacg gggatatctgg 120
 ggaagttgtc cggaagcacg gtcggagggg tcgacacgtc cctctcggac ttggcggggg 180
 tagcacagta cgtctccagg agggccagg cacagctgcg gaaacagcac tcctcaacga 240
 tgccacggct ggcacggctc acacggcttg cgggcctgct gaagtagaag ccgcggtccc 300
 cacagacgaa ctggagggtg tccaccagct ccccgccgca caggggtctca ctggggcggt 360
 aagcagcaat gcagcacgag gcgaaggcca agaaggtgag aagcaccagc atcgacttcc 420
 ccattgggat tcccattggt gtctggaagc cggcgacgct gccgcccacc tcctgctgc 480
 gtgtcgcaaa ccgaacagcg ggcgttggtc ctctgccgg acactcctct gccagcgccg 540
 ctctggccga gtcgcggggg ccgaatgtgc gacg 574

<210> 919
 <211> 139
 <212> DNA
 <213> Homo sapien

<400> 919
 gccgcgctcg tcgtcgacaa cggctccggc atgtgcaagg ccggcttcgc gggcgacgat 60
 gccccccggg ccgtcttccc ctccatcgtg gggcgcccca ggcaccaggg cgtgatggtg 120
 ggcattgggtc agaaggatt 139

<210> 920
 <211> 576
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(576)
 <223> n = A,T,C or G

<400> 920

ggtggacacc	accctcaaga	gcctgagcca	gcagatcgag	aacatccgga	gcccagaggg	60
cagccgcaag	aaccccgccc	gcacctgccg	tgacctcaag	atgtgccact	ctgactggaa	120
gagtggagag	tactggattg	acccaacca	aggctgcaac	ctggatgcca	tcaaagtctt	180
ctgcaacatg	gagactgggtg	agacctgcgt	gtaccccaact	cagcccagtg	tggcccagaa	240
gaactggtac	atcagcaaga	acccaagga	caagaggcat	gtctggttcg	gcgagagcat	300
gaccgatgga	ttccagttcg	agtatggcgg	ccagggctcc	gacctgccg	atgtggccat	360
ccagctgacc	ttcctgcgcc	tgatgtccac	cgaggcctcc	cagaacatca	cctaccactg	420
caagaacagc	gtggcctaca	tggaccagca	gactggcaac	ctcaagaagg	ccctgctcct	480
ccagggctcc	aacgagatcg	agatccgcgc	cgagggcaac	agccgnttca	cctacagcgt	540
cactgtcgat	ggntgnacga	gtcacaccgg	nagcct			576

<210> 921

<211> 421

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(421)

<223> n = A,T,C or G

<400> 921

gcgcactctgc	ccgccctagt	cggggaagag	caggaagccg	gagaagacgc	tgtcagagcc	60
ctggatgccc	accatgtcgt	agtagtcatt	gacagccagc	cacacctcct	cgcccacctg	120
caacctcagc	agcacaccgc	ccgagttgac	ctgattgggtt	ttggacgtgt	ggccacagaa	180
ggtgaccact	ttgacgcgcg	tgcggtacag	cagcacgcac	aggttggctg	tatgcgacgc	240
gtggtagaca	aagtagtaga	ggccggggac	tttgagggtg	aacttgccag	tgctcgtgtc	300
ataatctccc	tgcgggttg	tgaggaccgc	gttgaatctg	atcaggctgt	tgggtgcagg	360
gggctggtgg	gtctgccgag	tgaccngaa	cactgactgg	aatttctnnt	tgnatctgnc	420
c						421

<210> 922

<211> 177

<212> DNA

<213> Homo sapien

<400> 922

gacattttat	gacctctccc	aataggggca	gaggtagagca	cccctgggtga	aaagttaaga	60
ctcagtgagt	ataaatacgc	caagaagagc	tgtggcttct	ttcactgggtg	tcctcagaaa	120
ggctgtgagc	agtgttggtg	gcatacctgt	cacagcatct	agcaaagcac	ctgaatt	177

<210> 923

<211> 133

<212> DNA

<213> Homo sapien

<400> 923

tccactagtc	cagtgtggtg	gaattcgcg	cgcgctcgac	gcgagcagcg	gcggcggcgc	60
ggagagacgc	agcggaggtt	ttcctgggtt	cggacccag	cggccggatg	gtgaaatcct	120
ccctgcagcg	gat					133

<210> 924

<211> 216

<212> DNA

<213> Homo sapien

<400> 924

260

gggtagagaa	ccctgcggt	gcgctttcgg	tgcccgcgag	aggcgctggg	gcgccccgca	60
ggggccgctg	cgggctccgg	gagagggctg	aaggtgaaga	tctcaggacc	ggagccccgc	120
cggggtcccg	ggatggtgga	gggggcccgg	gtcggggcct	gcaggatggt	catggtcggg	180
tggcagctgc	gagagtga	catggtgagc	cgagcg			216

<210> 925

<211> 649

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(649)

<223> n = A,T,C or G

<400> 925

ggcccccaat	tccagctgcc	acaccaccca	cggtgactgc	attagttcgg	atgtcataca	60
aaagctgatt	gaagcaaccc	tctacttttt	ggtcgtgagc	cttttgcttg	gtgcagggtt	120
cattggctgt	gttgggtgag	ttgtcattgc	aacagaatgg	gggaaaggca	ctgttctctt	180
tgaagtaggg	tgagtcctca	aaatccgtat	agttgggtgaa	gccacagcac	ttgagccctt	240
tcatggtggt	gttccacact	tgagtgaagt	cttcctggga	accataatct	ttcttgatgg	300
caggcactac	cagcaacgtc	aggaagtgtc	cagccattgt	ggtgtacacc	aaggcgacca	360
cagcagctgc	aacctcagca	atgaagatga	ggaggaggat	gaagaagaac	gtcacgaggg	420
cacacttgct	ctcagtccta	ncaccatagc	agcccaggaa	accaagagca	aagaccacaa	480
cgccggctgc	gatgaggaag	tagcccacgn	tgacaaactg	catggcactg	gacgacagtg	540
gcccgaagat	cttcagaaaag	gatgccccat	cgattgacac	ccagatgcc	actgcccaaca	600
ggnctgcacc	acacagaaaag	atgagcaa	tgaagaggat	catcatggt		649

<210> 926

<211> 341

<212> DNA

<213> Homo sapien

<400> 926

gggtcctcaa	actctcgaat	gtacggcgca	atgccacaat	aaggttgatt	gtggtgtttt	60
tcatgtggca	gtttctccag	gggtggcagg	tatggaatag	ggtcacgggg	ggcaaaagagg	120
gccagaaggt	tgggcccag	gaactgggtc	atcttgccaa	gtcgcgtagc	gccctcctcg	180
ctctggcgtc	tgtccggagg	ctcgcggcgg	ctcgcgcagc	ccctcagcaa	caacaactcc	240
tgcttcggt	tccactccgg	gggcgtccac	gtccgtctga	ttccgtcgcc	cgctaagcga	300
gcgcaccaga	ccgctgctca	gcgtcgacgc	ggccgcgaat	t		341

<210> 927

<211> 431

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(431)

<223> n = A,T,C or G

<400> 927

gcggccgcca	cgctggtttt	gcattctcag	gagacgctcg	tagccctcgc	gcttctcttc	60
ggccaattcg	cggagaaggt	ggctcacgcc	ttccagagcc	acatcatcgc	ggtcgaaata	120
gaagcccaga	gagaggtagg	tgtaggaggc	ctgcaggtag	aaattgacca	ggctgttgac	180
ggctgcctcc	acgtcgggtg	aataattctg	acgaatctgg	gagctcatgg	ttggttgga	240
agaaggagct	aaccacaaaa	acggngctgg	caggctccag	aagcaggaga	tggccganaa	300
gatggtcccg	gaggttgcaa	gcggagagga	aatcggaggg	cggtcggagg	ctggaagaga	360

261

gtccccggat ctgttccgtc caaacactgt tgaagcaaga gacagaccgc cggtcgacgc 420
 ggccgcgaat t 431

<210> 928

<211> 538

<212> DNA

<213> Homo sapien

<400> 928

gtggcctgca	aggccgcgga	cagggcgagc	accgagtcgt	acattttgca	gctcatcatc	60
cccgtgctct	gcgtgacgca	gtccatccac	agccccttgt	acatggcctg	ggccgtgatg	120
atgttgtcac	ccgcatagga	gctcatctgc	cactgcggga	tggcgggtgca	ggccaccaga	180
cccaccagc	ccagcagggc	catggagaag	cccagcaact	gcaggcccga	attggccatt	240
tccgccctca	gaaaacactg	ggggcgccgg	gcgggagacc	ctacagtaaa	acaaacgaca	300
cttggggggc	agccccacaa	aagaaaactt	gaggtggagt	tttccggtca	cccaaagaga	360
caaaaagggt	ttgggccagg	tgaatgcaaa	tcttgctacc	aaactacaca	caaatcgacc	420
cctccagtga	agcgatggcc	tgcgcgcaca	gggagtagga	tacgcgggga	gggtggttcc	480
agacaaaatt	ggtggtcccc	gaaggccagg	cggttccctc	cgggcgctct	cggcgacc	538

<210> 929

<211> 69

<212> DNA

<213> Homo sapien

<400> 929

ctcctcgacc	accagcttgc	actggcagta	gttgagcagc	agcggcgtga	tctgcttgtc	60
cagctggat						69

<210> 930

<211> 544

<212> DNA

<213> Homo sapien

<400> 930

gcttttctcct	tcttatagac	gttccggacg	ggcatgaccg	gtccggtcag	ctgggtggcc	60
agtttcagtt	cttcagcaga	actgtctccc	ttcttggggg	ccgagggcct	cctggggaag	120
aggatgagtt	tggagcggtg	ctccttcagc	cgctgcacgt	tggcctgcag	ggactccgtg	180
gacttggtcc	gcctcctcgg	atccacagaa	atgccgatgg	tccgggcccac	cttcttgtga	240
atgccggcca	ccctgagctc	ctccaggctg	aagccgcggc	cggcgcgcac	cttcgtgtgg	300
taccgaaccg	tgggacagcg	cacgatgggc	cggatgggac	ccgacgcggg	gcgcggggcg	360
atgcggcgcg	ccttggttgg	ccgggcctta	cgtctgcgga	tcttacgggc	cggctggttg	420
aaccacgtgg	ccacgcgccg	ctgccagtcc	ttgtggaagt	ggggcttcaa	gacctgcca	480
ttccggctgg	gcgccatggc	tgcctacggc	cctgcggctc	ctgcggtcga	cgcggccgcg	540
aatt						544

<210> 931

<211> 596

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(596)

<223> n = A,T,C or G

<400> 931

gttgctgcag	tggcttgggc	gtcaggaggc	tcaactgaggg	ggccacatga	ccccagccag	60
tgacagtgca	gtggaggccg	ttggggaagg	aggcgttggc	tgcaggaggg	cagatggggc	120

ggatgtagcg	ggagaaggtg	atgggtctgc	tgagttggag	gagtgcaatg	tggccctggg	180
agccctcctg	gaggtagctg	gggtggggga	tgatgtcctt	caggggtgctg	accttggcgt	240
cctcgagta	ggagtctagc	tgggtggccc	ccagcttgac	ctcataggct	tccttgtggt	300
gctcgctggg	gaagcagtga	gcagctgaca	gcacccactg	ctcagacacg	agagagccac	360
cacacacatg	gacgccttca	taggtgatgc	tgacctgcca	gggccactga	ccggcgactg	420
cactgctgcc	acctgtgatg	cgtgcttggg	gggccacacc	gcagggagct	tctgcccctt	480
ccgctcctgt	ccccgaccgg	agtaatccaa	gatagagcag	aatggccaca	gcccccanct	540
gcccaggccc	caggaccccc	ttctggggcca	tggcccagga	caagggcccc	tggggc	596

<210> 932

<211> 153

<212> DNA

<213> Homo sapien

<400> 932

tctgtgctgg	ggtctgggct	ccgtggagag	atgtgtaggg	gtaatgagaa	attgatcagc	60
aatgagaggt	ggactctgag	ccacctccct	gacctgaat	cattcaagcg	aggagcagag	120
gagctcttga	ctgggggacg	gggatgtgag	gat			153

<210> 933

<211> 112

<212> DNA

<213> Homo sapien

<400> 933

tcaaacttgc	cattgttaaa	agcagccaca	ttttggacct	gcagtttcct	cagaaatagt	60
taggattctg	tgctgacgcg	gccgcgaatt	ccaccacact	ggactagtgg	at	112

<210> 934

<211> 74

<212> DNA

<213> Homo sapien

<400> 934

gtggccatcg	agtccccatc	ctggtcggcc	acccggaaac	gccgctcgtc	ccgaggctga	60
cgcggccgcg	aatt					74

<210> 935

<211> 380

<212> DNA

<213> Homo sapien

<400> 935

gcggccgcca	tcttggctct	tttccaccat	tttcagcccc	tccagggtct	ggaggaccgc	60
gcggggccaca	ctcttgagac	ctcggtgaa	gtggctgggc	atgacgccgt	ttctctgacg	120
tcccccatag	atcttgggtca	tggagccaac	cccagcgcca	ccccggaggt	acaggtgccg	180
cgtgtggaa	gcagctcgcg	tgtagaacca	gttctcatcg	tagggagcaa	gctctttgtg	240
cttggccagc	ttgacggtat	ccaccattc	ggggactttc	agcttcccgc	actttttgag	300
gaaggctgcc	agagctctga	cgaactcctg	ctgggttcacg	tcttttacag	taactccagg	360
catcgtgcg	cctccgcgcg					380

<210> 936

<211> 155

<212> DNA

<213> Homo sapien

<400> 936

ctggcgcttt	gaggatgggtg	tcctggaccc	tgattacccc	cgaaatatct	ctgacggctt	60
------------	-------------	------------	------------	------------	------------	----

cgatggcatc ccggacaacg tggatgcagc cttggccctc cctgcccata gctacagtgg 120
ccgggagcgg gtctacttct tcaaggggaa acagt 155

<210> 937

<211> 213

<212> DNA

<213> Homo sapien

<400> 937

gaggcggaga ggatcatgtc cggaactgc ggggtagtag cgatctgggt taccagccg 60
ttgtggccct tgagggtgcc acgaagggtc atctgctcag tcatggcggc ggcgagagcg 120
tgtgtcgtg cagcgacgag gatggcactg gatggccttag agaaactagc accacaacct 180
ctcctgccgc cgccgtcgac gcggccgcga att 213

<210> 938

<211> 261

<212> DNA

<213> Homo sapien

<400> 938

gggtccgtca gggctgaaga cctgcccagg cacacaactc accacggccg gtagccatt 60
ctcgcagggtg acattcttca tgggtccag tgacacctg gggcccagct tgcagctgga 120
gatgtgggcc tctgtgccgg tgcagtccat ggagaatggc cagtagcgct gcttctccg 180
tgaggcaaac attttgtaca ctttggtatt gtatgtctc tcccaggga agccaaacat 240
gccgcagacc acgcgggaat t 261

<210> 939

<211> 228

<212> DNA

<213> Homo sapien

<400> 939

gctcaggctc caaagccagc aggaaagagg tagctcggga cgtggagccg ccgcccagg 60
gcgccaggac cacctcggcc gtcaccttag ccagggtggc gcttaggtcc actgtgcgt 120
tcagtcctc attgatcagc ggcgtgcct cggaggaggc gctgcccgcc gccggggccc 180
aagtcccaag caacaggagc agaaacaagc cggcggctgg cgcgtcga 228

<210> 940

<211> 97

<212> DNA

<213> Homo sapien

<400> 940

tccttcaagt atgcctgggt gctggacaag ctgaaggcgg agcgtgagcg cggcatcacc 60
atcgacatct ccctctggaa gttcgagacc accaagt 97

<210> 941

<211> 200

<212> DNA

<213> Homo sapien

<400> 941

ggaccagggg gcacaggctc ccagatgata gcccctctct gaatgagcac ccaggcaaca 60
cagtccgggg ctgtgtgtag caaacctgtc agcagctgcc tcctgggaca accaccccct 120
tacatgctat ctatctacca gacaaatgaa agctcttctt acccatctc ccaggcaccc 180
cccagcaagg gctctgaatt 200

<210> 942

<211> 209
 <212> DNA
 <213> Homo sapien

<400> 942
 gaggcggaga ggatcatgtc cggaactgc ggggtagtag cgatctgggt taccagccg 60
 ttgtggccct tgaggggtgc acgaagggtc atctgtcag tcatggcggc ggcgagagcg 120
 tgtgtcgctg cagcgacgag gatggcactg gatggcttag agaaactagc accacaacct 180
 ctctgcccgc gtcgacgcgg ccgcgaatt 209

<210> 943
 <211> 130
 <212> DNA
 <213> Homo sapien

<400> 943
 gtaaggagcc caagaaaaag tgatgccgcc tggcagactc gccatcccc aacgacacag 60
 ggcaggacag cagaggacgt gctgggatta aacacattcc ccctcaaaaa aaaaaaaaaa 120
 aaaaaaaaaa 130

<210> 944
 <211> 563
 <212> DNA
 <213> Homo sapien

<400> 944
 gacagtccca gtactctttg ctcagctttc ggggcgggcc tcgtttccgc ttcccgtgct 60
 tgggatcccc cttcttgtag tcacgaaaac catcgctggg gaagagcttg ccatcagtgg 120
 gatccaggtc cacgtcactt ccaccggagt ctgaggagtg ggagctccga gaagcaccag 180
 tccttgccgt ggagacgtca gagctgccgg gggagggggc tcctgcgcca cagctgccgg 240
 ggtggtaggg gctggcttgc tgaccgtcgt ccagcagctc ctgggcaaag gggctgccct 300
 ggtcaaaggg ccctgggtct agggcctcct ggaaggccat gccatccttc tccagcagct 360
 caatgatcca actgagctca tcagaagagc tggaagttag gtctcgcagc tgggcatgga 420
 gttggtcccc cagaggccca aagaccagac gcagctcctc aagggcacia ttgcagaggg 480
 tggcgccatc catgtcacat cgtgagaagt caatggcgct tgcgtcgtac ttgttcttct 540
 ccacttggtg gctgatccag tcc 563

<210> 945
 <211> 637
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(637)
 <223> n = A,T,C or G

<400> 945
 gctgagcccc ttactgctcc tcccaccaat gggctccctc acaccagga caggactaag 60
 agggagctgg cggagaatgg aggtgtcctg cagctggtgg gccagagga gaagatgggc 120
 ctcccgggct cagactcaca gaaagagctg gcctgaccac caggcacctc actggcactg 180
 ctgacccatc ccagaaacac aatctcaggg acccgagcag ctccaaggac gagaggatac 240
 agcagacaca acctaataga gagggcgccg gcagccttaa cctccacggc cttcgatact 300
 tatgcaagcc tgggtgtgct cctgtcctca gagtcacctc gcgctcatgc cttttcccgga 360
 atgggttcac ctctggcagt tgccgcttca gtcttgccct tagcctcatc ttgaagtggg 420
 tagctggcgg gagaggggtg ctgcgcccc tgctggccct gaggtgcag agttgggagc 480
 aggacacctc acctgagttt catttttttt catgtccaaa ccatgcacat actatagtc 540
 agaatcaaag cacttttgaa aagtggctgc atggccatcc tccagggccc aggaagtgc 600

attccaaggg cctgtttaca tggcagcana atccatc 637

<210> 946
 <211> 306
 <212> DNA
 <213> Homo sapien

<400> 946
 ggcgcgggct cctctccctt cggctgcccg gatgcggagc aagcggctcc cggggaagct 60
 ggcgcgtcgg ccggtaccg cggcgagcac ttaggaaggc gcgggtggc cagttcacag 120
 ctgcccgctc caagtggggg gaggcgaatt ggagaggagg aggaggggag gaaaaagagc 180
 aaaagtgggg gcgcttgac cccttctctt ctctctctgc aaagaaaagt ttccgggggt 240
 gaaactggcg agtctccgag ccaactgaagt ttccagtcag ttccgaggtc gacgcggccg 300
 cgaatt 306

<210> 947
 <211> 71
 <212> DNA
 <213> Homo sapien

<400> 947
 ggtccagagc tcccaggttt ccaggttgca gtccctccag tcccagagct cccaggggtt 60
 cggtttccag t 71

<210> 948
 <211> 575
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(575)
 <223> n = A,T,C or G

<400> 948
 gcggccgccc tttttttttt tttttgtcag caaaaatctt ttttaataaga gagtaggatc 60
 cagggttagt tttttagacc tcggctggcc cgtcggcctc tggcacgctc gaacttccgg 120
 cccttgagc ggacgtaggg tttggtgtgg ctgtgcgggg ttcttggggc cttgccgaaa 180
 tgccggtaca cctctcgccc cttgcgagga ccggagagca ggacagtgcc acagccctta 240
 ggggagtcca gggccagctg gtcnaaagtg aggatcttgc cccctgccct gaggatgcgg 300
 ctgcgggccc ggctggtcac gcgcagtga cataccttca gttngggtac ctctgaacc 360
 cgcacatcat cagttatggc cccacaacc acggccgtct tgttttcccg gccaggaagc 420
 ttcattcttc ggatcatccg ggaaagggac agaggcggcc ggttggtgcg actcataaac 480
 aacctcttca acacaacctg gttgaatgtg gagttggttc ttctggccag aacctgtat 540
 aacttgacca acagcctcag gtagatatcc tggct 575

<210> 949
 <211> 294
 <212> DNA
 <213> Homo sapien

<400> 949
 ggggtttcca cgtagccac aatgccaca accaccatgg gtggtgtctc tacaatggtc 60
 acagcctcca ccacctctt cttgttcacc ttggatcccg gcctgtcgac ttcccgcaag 120
 atgtgagtca tgccagcctt gtatcccagg aaggctgtga ggtggaccgg cttggacggg 180
 tcatccttag ggaagctctt caccttccca cgatgcctgc tgctgcgctt ccgaggcagg 240
 aagccgaggg acccatgtct gggagcggag aactttctgt gagacatcac gccca 294

<210> 950
 <211> 693
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(693)
 <223> n = A,T,C or G

<400> 950
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 aaagctgatt gaagcaaccc tctacttttt ggctcgtgagc cttttgcttg gtgcagggtt 120
 cattggctgt gttgggtgacg ttgtcattgc aacagaatgg gggaaaggca ctgttctctt 180
 tgaagtaggg tgagtcctca aaatccgtat agttgggtgaa gccacagcac ttgagccctt 240
 tcatgggtgg gttccacact tgagtgaagt cttcctggga accataatct ttcttgatgg 300
 caggcactac cagcaacgtc aggaagtgtc cagccattgt ggtgtacacc aaggcgacca 360
 cagcagctgc aacctcagca atgaagatga ggaggaggat gaagaagaac gtcacgaggg 420
 cacacttgct ctcatgtctta gcaccatagc agcccaggaa accaagagca aagaccacaa 480
 cgccggctgc gatgaggaag tagcccacgt tgacaaactg catggcactg gacgacagtg 540
 gcccgaagat cttcanaaag gatgccccat cgattgacac ccagatgccc actgccaaca 600
 gggctgcacc acacagaaag atgagcaaat tgaagaggat catcatggtc ttaatgaagc 660
 tgaagcactg catggnngct cctgttcagg gct 693

<210> 951
 <211> 607
 <212> DNA
 <213> Homo sapien

<400> 951
 gtggcctgca aggccgcgga cagggcgagc accgagtcgt acattttgca gctcatcatc 60
 cccgtgctct gcgtgacgca gtccatccac agccccttgt acatggcctg ggccgtgatg 120
 atgttgctac ccgcatagga gctcatctgc cactgcggga tggcggtgca ggccaccaga 180
 cccaccacgc ccagcagggc catggagaag cccagcaact gcaggcccga attggccatt 240
 tccgcctca gaaaacactg ggggcgcggg gcgggagacc ctacagtaaa acaaacgaca 300
 cttggggggc agccccacaa aagaaaactt gaggtggagt tttccggtca cccaaagaga 360
 caaaaagggt ttgggccagg tgaatgcaaa tcttgtcacc aaactacaca caaatcgacc 420
 cctccagtga agcagtgccc tcgcggcaca gggagtagga tacgccggga ggggtggttc 480
 agacaaaatt ggtggtcccc gaaggccagg cggttcctc cgggcgctct cggcgacctt 540
 aggcaacaa aaggtggagg ggccgtctgg gcgcgtttct gagcgccggc aagtcccäaa 600
 gtatcct 607

<210> 952
 <211> 372
 <212> DNA
 <213> Homo sapien

<400> 952
 ggatgaggtc aacccgaagg ggtttcttga gaagcagtga cttcttcttg actttggttc 60
 tcttctttgt cagccctttt tccttggagc cagtgtccac gaagaagagt ttttcatttg 120
 gggcctctga caacaagcca ccgctcgtgc gctcctgtag ccgcacgtct tccaggaact 180
 ggtcaacctc cagccccagc ggctcctgag caagccgccg ccagccccgc ttcttatttc 240
 ttgggcctcg ccgccgccgc ctcagcgtg ggtccaccga agtggggcgc agccccagga 300
 aaccagaatc ggcacgcgtt ttcgagctgc gcttcccacc aacgccactg cctgtcgagc 360
 cggccgcgaa tt 372

<210> 953
 <211> 275

<212> DNA

<213> Homo sapien

<400> 953

gccatctgct	gtttttttctc	agcaccttcc	gtctttttgtt	caatacttga	gacgaccctc	60
caagatgacc	tacgggctcc	tacaacatth	ttataagcaa	ctgagagaag	attcctctcc	120
tcattggata	attcagctcc	ttgtctcagtt	acagacttca	tgcaggctgc	catgtcatca	180
tatcgctcag	cctgctcggc	cagttttggc	ttctgaacca	gctcattttt	atccatgact	240
ggatgtttctg	tgtccggtcg	acgcggccgc	gaatt			275

<210> 954

<211> 189

<212> DNA

<213> Homo sapien

<400> 954

ggctcccact	tccctgcttc	gatggagaag	gagagggtgt	ccagcagggtg	ccgtagggtcc	60
ctgaccacagc	tgaccaccac	cctggggccag	cttctgacag	tcccacctcc	cagttgctgg	120
aggggtagt	gcctcacaga	cggccctcct	ctagatgcag	tgggcccaga	gtcgacgcgg	180
ccgcgaatt						189

<210> 955

<211> 189

<212> DNA

<213> Homo sapien

<400> 955

gaggcggaga	ggatcatgtc	cgggaactgc	ggggtagtag	cgatctgggt	taccagccg	60
ttgtggccct	tgagggtgcc	acgaagggtc	atctgctcag	tcatggcggc	ggcgagagcg	120
tgtgtcgctg	cagcgacgag	gatggcactg	gatggcttag	agaaactagc	gtcgacgcgg	180
ccgcgaatt						189

<210> 956

<211> 216

<212> DNA

<213> Homo sapien

<400> 956

gcggccgcac	gtgtaggcaa	agaagcctgt	gtccggcctc	cagaccatgt	tggcccgccc	60
attcccgtctg	taaccgacga	cagccttcag	acgcagccac	ccaccgctgg	cgggaggcgg	120
gcaagtgtccc	ttggcagagt	gggggctgca	gctgaccctg	gcaggcgtga	aggccttgca	180
ggaagccagg	taggtggtgc	gtggggcccc	cgaatt			216

<210> 957

<211> 62

<212> DNA

<213> Homo sapien

<400> 957

ccagtgggag	gctcccaccc	tggtagatga	acagcccctg	gagaactacc	tggtatatgga	60
gt						62

<210> 958

<211> 199

<212> DNA

<213> Homo sapien

<400> 958

ggattcggtc	atattggaat	tgctgttcct	gatgtataca	gtgcttgtaa	aaggtttgaa	60
gaactgggag	tcaaatttgt	gaagaaacct	gatgatggta	aaatgaaagg	cctggcattt	120
attcaagatc	ctgatggcta	ctggattgaa	attttgaatc	ctaacaaaat	ggcaacctta	180
atgtagtgct	gtgagaatt					199

<210> 959
 <211> 212
 <212> DNA
 <213> Homo sapien

<400> 959						
gaggcggaga	ggatcatgtc	cggaactgc	ggggtagtag	cgatctgggt	taccagccg	60
ttgtggccct	tgagggtgcc	acgaagggtc	atctgctcag	tcatggcggc	ggcgagagcg	120
tgtgtcgctg	cagcgacgag	gatggcactg	gatggcttag	agaaactagc	accacaacct	180
ctcctgccgc	cgcgtcgacg	cggccgcgaa	tt			212

<210> 960
 <211> 177
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(177)
 <223> n = A,T,C or G

<400> 960						
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ctcagtgagt	ataaatacnc	caagaagagc	tgtggcttct	ttcactgggtg	tcctcagaaa	120
ggctgtgagc	agtgttggtg	gcatacctgt	cacagcatct	agcaaagcac	ctgaatt	177

<210> 961
 <211> 490
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(490)
 <223> n = A,T,C or G

<400> 961						
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cctagtggaa	gccttccagt	aatttcttga	agctgagcgc	tcagggtgagt	agggcgacat	120
ctggtggccg	gttgttgaag	gtcattgcag	agaggaagga	agccgaggag	gggagcctgc	180
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cacctgagga	gttggtcagg	tagaaggggc	ggatgaccgt	gcggaagccg	ttgaantgcc	300
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tcgcagcctt	ccagccctcg	aaatcgggtg	cgtctgccac	gaagagccct	tcgcagagca	420
tcagggcttt	gttttcgtag	gcaatgggtg	gatctgagcc	gccagacttg	gtgaggccca	480
ggacagggag						490

<210> 962
 <211> 159
 <212> DNA
 <213> Homo sapien

<220>

<221> misc_feature
 <222> (1)...(159)
 <223> n = A,T,C or G

<400> 962
 gggtcggccc ggggtggttgc ggccacagcg cagcggcgga gagcggcgcc cancatgacg 60
 gcgatggcgg cgcgcgggcn gnggacagan agaagccggt gtaagctcgc gggttgctcc 120
 ggagcgggcg ggggccggac gtcgacgcgg ccgcgaatt 159

<210> 963
 <211> 217
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(217)
 <223> n = A,T,C or G

<400> 963
 gggtagagaa ccctgcggct gcgctttcgg tgcccgcgag aggcgctggg gcgcccggca 60
 ggggcccgtg cgggctccnn gagagggtcg aaggtgaaga tctcaggacc ggagccccgc 120
 cggggtcccg ggatggtgga gggggccggg gtcggggcct gcaggatggt catggtcggg 180
 tggcagctgc gagagtgaca catggtgagc cgagcgt 217

<210> 964
 <211> 540
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(540)
 <223> n = A,T,C or G

<400> 964
 gtggcctgca aggccgcgga cagggcgagc accgagtcgt acattttgca gctcatcatc 60
 cccgtgctct gcgtgacgca gtccatccac agccccctgt acatggcctg ggccgtgatg 120
 atgttgctac ccgcatagga gctcatctgc cactgcggga tggcgggtgca ggccaccaga 180
 cccacccagc ccagcagggc catggagaag ccagcaact gcaggccga attggccatt 240
 tccgccctca gaaaacactg ggggcgcggg gcgggagacc ctacagtaaa acaaacgaca 300
 cttggggggc agccccacaa aagaaaactt gaggtggagt tttccggtca ccaaagaga 360
 caaaaagggt ttgggccaag tgaatgcaaa tcttgctacc aaactacaca caaatcgacc 420
 cctccagtga agcgatggc tcgcggcaca gggagtagga tacgccggga ggggtggttc 480
 aganaaaatt ggtggtcccc gaaggccagg cggttccctc cgggcgctct cggcgaccct 540

<210> 965
 <211> 321
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(321)
 <223> n = A,T,C or G

<400> 965
 gccacagtg gcttggttcc gcagtgcgcg gccgtcagca cccaactctg gtccaccagg 60

270

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acacccgcgc agtggaacga gaggcogttg aagagcgaga cctgccaggg ctgcgagccg 120
cgcgcgacag gggcgccata ggcttcgggg tccaagcgcg tgtcgttttg ggggagcagc 180
gccgcctctg cggcccagag ttgcgccatc agcagcgcca gcagcttcgc cagagcccgg 240
gcgccagagg cggcggagag gtggaggtgc ggagctctca tggccaggat ctgggagtng 300
ccgatangaa ggaggaggag g

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<210> 966

<211> 642

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(642)

<223> n = A,T,C or G

<400> 966

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ggtggacacc accctcaaga gcctgagcca gcagatcgag aacatccgga gcccagaggg 60
cagccgcaag aaccccgccc gcacctgccg tgacctcaag atgtgccact ctgactggaa 120
gagtggagag tactggattg accccaacca aggctgcaac ctggatgcca tcaaagtctt 180
ctgcaacatg gagactggtg agacctgcgt gtacccact cagcccagtg tggccanaa 240
gaactggtac atcagcaaga accccaagga caagaggcat gtctggttcg gcgagagcat 300
gaccgatgga ttccagttcg agtatggcg ccagggtccc gacctgccg atgtggccat 360
ccagctgacc ttctgcgcc tgatgtccac cgaggcctcc cagaacatca cctaccactg 420
caagaacagc gtggcctaca tggaccagca gactggcaac ctcaagaagg ccctgctcct 480
ccagggtccc aacgagatcg agatccgcgc cgagggaac agccgcttca cctacagcgt 540
cactgtcgat ggctgcacga gtcacaccgg agcctggggc aagacagtga ttgaatacaa 600
aaccaccaag acctcccgcc tgcccatcat cgatgtggcc cc 642

```

<210> 967

<211> 650

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(650)

<223> n = A,T,C or G

<400> 967

```

ggtggacacc accctcaaga gcctgagcca gcagatcgag aacatccgga gcccagaggg 60
cagccgcaag aaccccgccc gcacctgccg tgacctcaag atgtgccact ctgactggaa 120
gagtggagag tactggattg accccaacca aggctgcaac ctggatgcca tcaaagtctt 180
ctgcaacatg gagactggtg agacctgcgt gtacccact cagcccagtg tggcccagaa 240
gaactggtac atcagcaaga accccaagga caagaggcat gtctggttcg gcgagagcat 300
gaccgatgga ttccagttcg agtatggcg ccagggtccc gacctgccg atgtggccat 360
ccagctgacc ttctgcgcc tgatgtccac cgaggcctcc cagaacatca cctaccactg 420
caagaacagc gtggcctaca tggaccagca gactggcaac ctcaagaagg ccctgctcct 480
ccagggtccc aacgagatcg agatccgcgc cgagggaac agccgcttca cctacagcgt 540
cactgtcgat ggctgcacga gtcacaccgg naggctgggg caagacagtg attgaataca 600
aaaccaccaa gacctccgc ctgcccata tcgatgtggc ccccttgga 650

```

<210> 968

<211> 629

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(629)

<223> n = A,T,C or G

<400> 968

```

ggtggacacc accctcaaga gcctgagcca gcagatcgag aacatccgga gccagaggg      60
cagccgcaag aaccccgccc gcacctgccg tgacctcaag atgtgccact ctgactggaa      120
gagtggagag tactggattg accccaacca aggctgcaac ctggatgcca tcaaagtctt      180
ctgcaacatg gagactggtg agacctgcgt gtacccctact cagcccagtg tggcccagaa      240
gaactggtac atcagcaaga accccaagga caagaggcat gtctggttcg gcgagagcat      300
gaccgatgga ttccagttcg agtatggcgg ccagggtccc gacctgccg atgtggccat      360
ccagctgacc ttcctgcgcc tgatgtccac cgaggcctcc cagaacatca cctaccactg      420
caagaacagc gtggcctaca tggaccagca gactggcaac ctcaagaagg ccctgctcct      480
ccagggtccc aacgagatcg agatccgcgc cgagggcaac agccgcttca cctacagcgt      540
cactgtcgat ggctgcacga gtcacaccgg naggctgggg caagacagtg attgaatata      600
aaaccaccaa gacctccgcg ctgcccac      629

```

<210> 969

<211> 222

<212> DNA

<213> Homo sapien

<400> 969

```

gaatgtcagg ggtgttgggg gctttggctg ggtcctgggt ctctgtgtag agacctggag      60
gcgcttggtt ctgggggttc tccaggattc cagcctcgta gctgatgtgc atgaggttct      120
catccatgct ccacgggttc ttgggagtga ccgggatggg aatcccgtgt tgctttgcgt      180
actccatcag gtcattgcgg cccttgaacc ggttgtagaa tt                        222

```

<210> 970

<211> 79

<212> DNA

<213> Homo sapien

<400> 970

```

gcaggggccc cctggccttg ctccgctcca cgaggaggcc gccaacgca gggccgcgac      60
acggacggga agcaacgga                        79

```

<210> 971

<211> 111

<212> DNA

<213> Homo sapien

<400> 971

```

ggaaaatgca tctacccac ccaaccagca gcctcacttt aggtgcctt gtcccggcg      60
ccccattcgt cagccccacg cctcctccag gatccgggcc cagctcgaat t              111

```

<210> 972

<211> 609

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(609)

<223> n = A,T,C or G

<400> 972

```

ggtggacacc accctcaaga gcctgagcca gcagatcgag aacatccgga gccagaggg      60

```

cagccgcaag	aacccccgcc	gcacctgcgc	tgacctcaag	atgtgccact	ctgactggaa	120
gagtggagag	tactggattg	accccaacca	aggutgcaac	ctggatgcca	tcaaagtctt	180
ctgcaacatg	gagactggtg	agacctgcgt	gtacccccact	cagcccagtg	tggcccagaa	240
gaactggtac	atcagcaaga	accccaagga	caagaggcat	gtctggttcg	gcgagagcat	300
gaccgatgga	ttccagttcg	agtatggcgg	ccagggtctc	gacctgcgcg	atgtggccat	360
ccagctgacc	ttcctgcgcc	tgatgtccac	cgaggcctcc	cagaacatca	cctaccactg	420
caagaacagc	gtggcctaca	tggaccagca	gactggcaac	ctcaagaagg	ccctgctcct	480
ccagggtctc	aacgagatcg	agatccgcgc	cgaggggcaac	agccgcttca	cctacagcgt	540
cactgtcgat	ggctgcacga	gtcacaccgg	nagcctgggg	caagacagtg	attgaataca	600
aaaccacca						609

<210> 973
 <211> 311
 <212> DNA
 <213> Homo sapien

<400> 973						
gggggtttcca	cgtagcccac	aatgccaca	accaccatgg	gtggtgtctc	tacaatggtc	60
acagcctcca	ccacctcctt	cttggttcacc	ttggatcccg	gcctgtcgac	ttcccgcacg	120
atgtgagtca	tgccagcctt	gtatcccagg	aaggctgtga	ggtggaccgg	cttggacggg	180
tcacctttag	ggaagctctt	caccttccca	cgatgcctgc	tgctgcgctt	ccgaggcagg	240
aagccgaggg	acccatgtct	gggagcggag	aactttctgt	gagacatcac	gcgtcgacgc	300
ggccgcgaat	t					311

<210> 974
 <211> 180
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(180)
 <223> n = A,T,C or G

<400> 974						
gaggcggaga	ggatcatgtc	cgggaactgc	ggggtagtag	cgatctgggt	taccagccg	60
ttgtggccct	tgagggtgcc	acgaagggtc	atctgctcag	tcatggcggc	ggcnagagcg	120
tgtgtcnctg	cancgacnag	gatggcactg	gatggcttag	anaaactagc	accacgtcga	180

<210> 975
 <211> 187
 <212> DNA
 <213> Homo sapien

<400> 975						
gcaccagccc	cggggactat	gtgctcagcg	tctcagagaa	ctcgcgcgtc	tcccactaca	60
tcatcaacag	cagcggcccg	cgcccgccgg	tgccaccgtc	gcccgccag	cctccgcccc	120
gggtgagccc	ctccagactc	cgaataggag	atcaagagtt	tgattcattg	cctgctttac	180
tggaatt						187

<210> 976
 <211> 59
 <212> DNA
 <213> Homo sapien

<400> 976						
ctgggtccgc	tgcatggacc	tggacgggga	cggcgccctg	tccatgttcg	agctcgagt	59

<210> 977

<211> 66

<212> DNA

<213> Homo sapien

<400> 977

```

gggccagagc tcccagggtt ccagggttgc gtccctccag tcccagagct cccaggggtt 60
cgggtt 66

```

<210> 978

<211> 114

<212> DNA

<213> Homo sapien

<400> 978

```

ggagctgatg cgggaaccgg gcccaactcg gtaggagcgg ctgctgaagg cccggggggc 60
agaggtggac accttgtagg acttctgggt caccctgcga cgcggccgcg aatt 114

```

<210> 979

<211> 177

<212> DNA

<213> Homo sapien

<400> 979

```

gacattttat gacctctccc aataggggca gaggtgagca cccctgggtga aaagttaaga 60
ctcagtgaat ataaatacgc caagaagagc tgtggcttct ttactgggtg tcctcagaaa 120
ggctgtgagc agtgttgggt gcataacctgt cacagcatct agcaaagcac ctgaatt 177

```

<210> 980

<211> 188

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(188)

<223> n = A,T,C or G

<400> 980

```

ggagctgatg cgggaaccgg gcccaactcg gtaggagcgg ntgctgaagg cccggggggc 60
agaggtggac accttgtagg acttctgggt caccctgatg gacatggtag aggtggagt 120
ggaggcaggg gggccgaacc aggcggagat cctagaagga gcggagaagg tcgacgcggc 180
cgcggaatt 188

```

<210> 981

<211> 184

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(184)

<223> n = A,T,C or G

<400> 981

```

gggccccagg aggccgggtg ggcacaggcc atggcgaggg tggggcacia gagccccaga 60
ccccggcggc tttgcaactga tgggctgcgg ntgggcacag gccatagtga ggggggcatg 120
agagccccag accgggcggc tttgcaactga tgagctgcag ggcaggtcga cgcggccgcg 180

```

aatt 184

<210> 982
 <211> 98
 <212> DNA
 <213> Homo sapien

<400> 982
 tccactagtc cagtgtggtg gaattcgcg ccgctcgac cgaaccctga accctacggt 60
 cccgaccgc gggcgaggcc gggtagctg gctgggat 98

<210> 983
 <211> 425
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(425)
 <223> n = A,T,C or G

<400> 983
 gccgatatg gtcctgccg tggcagccta tgggctgatc ctgatggcca tgctgtggcg 60
 cggcctggcc cagggcgga gtgccgctg gggcgctg ctcttcacgc tctctgatgg 120
 cgtgctggcc tgggacacct tggccagcc cctgccccat gccncctgg tgatcatgac 180
 cacctactat gctgcccagc tcctcatcac actgtcagcc ctgaggagcc cggtgcccaa 240
 gactgactga ctaggagct tgaagggccg gtgttcaggc cctctcctcc tgcaaggacc 300
 tgggectccc agcccagccc agcctgagaa ataccctcag cagcgaagct tcctgacgcc 360
 tgtctgcagg cgccgctgcc gccgtcgctt ctggctgaag acgtttgagg acgatttgcg 420
 gaatt 425

<210> 984
 <211> 148
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(148)
 <223> n = A,T,C or G

<400> 984
 tcctnagcca gggagacagg gaccaggcag cacaggcctg ccagcaggag gatgccccac 60
 gagacagaag acggcattgt cgattcactg tcccaggta gtggtgggtc gacgcggccg 120
 cgaattccac cacactggac tagtggat 148

<210> 985
 <211> 461
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(461)
 <223> n = A,T,C or G

<400> 985
 ggtggacacc accctcaaga gcctgagcca gcagatcgag aacatccgga gccagaggg 60

```

cagccgcaag aaccccgccc gcacctgccg tgacctcaag atgtgccact ctgactggaa 120
gagtggagag tactggattg accccaacca aggctgcaac ctggatgcca tcaaagtctt 180
ctgcaacatg gagactggtg agacctgcgt gtacccact cagcccagtg tggccanaa 240
gaactggtac atcancaaga accccaagga caagaggcat gtctggttcg gcgagagcat 300
gaccgatgga ttccagttcg agtatggcgg ccagggtcc gaccctgccg atgtggccat 360
ccagctgacc ttctgcgcc tgatgtccac cgaggcctcc canaacatca cctaccactg 420
caagaacagc gtggcctaca tggaccanca nactggcaac c 461

```

```

<210> 986
<211> 138
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(138)
<223> n = A,T,C or G

```

```

<400> 986
gagcggctgc tgaaggcccg ggggccagag gtggacacct tgtangactt ctgggtcacc 60
ctgatggaca tggtagaggc aggagtggag gcaggcgggc cgaaccaggc ggagatccta 120
gaaggagcgg aggtcgnc 138

```

```

<210> 987
<211> 555
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(555)
<223> n = A,T,C or G

```

```

<400> 987
gcggcgccc tttttttttt ttttttttag tggataaact atatttattg tgcctgagag 60
gcaaggtagg gaaaaaatct caacagaagc aagtttgggg aaaatctgga gtccccagta 120
aaaagcagga aggtctctgc tgtactcatc acagaatggg agagagggct ctcaatagat 180
cattcccttt gtttctcccc tgggcttctt gagcttctcg aagttcttca ggatgatgtc 240
atataacaca gcataagcat tgcggatctc catgaccatc agccggatgt cccggtactc 300
tgcctcatcc agctcgtgca ccagctgccg ataatacccc acatggggct gcttggtgc 360
tttagtcact gcatcaccac gctcagagaa atacttagag atttgagtgt ggaagccttc 420
tancttggtg tggaggctgg tcatcagctc aaacaacctc tcctggacag ccactccaaa 480
attgttacca tcctcaatcc gaggtatctg cagctgcaac caggtggtga ccaggttagg 540
ctgctcaatg acatc 555

```

```

<210> 988
<211> 318
<212> DNA
<213> Homo sapien

```

```

<400> 988
gacggcgcg gcgacctacg aacagctttg aggaagcccc gacagtggcg gcgtccagtg 60
cctccgaggg cggcgaccgc ggctccgcag cctctcccag ccgctccgcc cggttccggg 120
gagtgggtcg ggacaaaatg gcctcccttc cccctcagg gcttctcggc cgggacgctc 180
ccacgggcga gcaagcctgc tctgccgtcg aggaggcgca gcgggcgtga ggacagtctc 240
tctcccgagc ggaaactccc tgctagcacg cggcgagggc agcgaagaag gacccctaag 300
tcgacgagct cagttaca 318

```


<210> 989
 <211> 177
 <212> DNA
 <213> Homo sapien

<400> 989	
gacat t t t t a t g a c c t t c c c a a t a g g g g c a g a g g t g a g c a c c c t g g t g a a a g t t a a g a	60
c t c a g t g a g t a t a a a t a c g c c a a g a g a g c t g t g g c t t c t t t c a c t g g t g t c c t c a g a a a	120
g g c t g t g a g c a g t g t t g g t g g c a t a c c t g t c a c a g c a t c t a g c a a a g c a c c t g a a t t	177

<210> 990
 <211> 144
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1) ... (144)
 <223> n = A, T, C or G

<400> 990	
g t g a g c a c c c n t g g t g a a a a g t t a a g a c t c a g t g a g t a t a a t a c g c c a a g a a g a g c t g t	60
g g c t t c t t t c a c t g g t g t c c t c a g a a a g g c t g t g a g c a g t g t t g g t g g c a t a c c t g t c a c	120
a g c a t c t a g c a a a g c a c c t g a a t t	144

<210> 991
 <211> 659
 <212> DNA
 <213> Homo sapien

<400> 991	
g g t g g a c a c c a c c c t c a a g a g c c t g a g c c a g c a g a t c g a g a a c a t c c g g a g c c c a g a g g g	60
c a g c c g c a a g a a c c c c g c c c g c a c c t g c c g t g a c c t c a a g a t g t g c c a c t c t g a c t g g a a	120
g a g t g g a g a g t a c t g g a t t g a c c c c a a c c a a g g c t g c a a c c t g g a t g c c a t c a a a g t c t t	180
c t g c a a c a t g g a g a c t g g t g a g a c c t g c g t g t a c c c c a c t c a g c c c a g t g t g c c c a g a a	240
g a a c t g g t a c a t c a g c a a g a a c c c c a a g g a c a a g a g g c a t g t c t g g t t c g g c g a g a g c a t	300
g a c c g a t g g a t t c c a g t t c g a g t a t g g c g g c c a g g g c t c c g a c c t g c c g a t g t g g c c a t	360
c c a g c t g a c c t t c c t g c g c c t g a t g t c c a c c a g g c c t c c a g a a c a t c a c c t a c c a c t g	420
c a a g a a c a g c g t g g c c t a c a t g g a c c a g c a g a c t g g c a a c c t c a a g a a g g c c c t g c t c c t	480
c c a g g g c t c c a a c g a g a t c g a g a t c c g c g c g a g g g c a a c a g c c g c t t c a c c t a c a g c g t	540
c a c t g t c g a t g g c t g c a c g a g t c a c a c c g g a g c c t g g g g c a a g a c a g t g a t t g a a t a c a a	600
a a c c a c c a a g a c c t c c c g c c t g c c c a t c a t c g a t g t g g c c c c c t t g g a c g t t g g t g c c c	659

<210> 992
 <211> 226
 <212> DNA
 <213> Homo sapien

<400> 992	
t c c g c t g c a c t g g g t t t g c c g g a t t c t t g g g c t t c c c a c a t a c t g c t t c a c a t t c a g g a a	60
g t t t a t c t c c a a c a g c c t t a t t t a t c c a c t g c t t c t t a t c a t t t a a g g t g t a t a c t c c a t	120
c t c c t t c t g t g c g c a g t t t g t a g t a g t t c t t a c a c t g g t a g c g a a c c g a g t g c t c c a c a t	180
a g c c a t g t g c a a t c t c g g g g g g c t t c g g g c a g c c g t c a t c t g c g a t	226

<210> 993
 <211> 160
 <212> DNA
 <213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(160)

<223> n = A,T,C or G

<400> 993

ctcgtgttng	agcgctgct	gaagggcccg	gggccanagg	nggacacctt	gtacgacttc	60
tgggtcacc	tgatggacat	ggtanangct	ggagtggagg	caggcgggcc	gaaccaggcg	120
gagatcctag	aaggagcgga	ggtcgacgcg	gccgcgaatt			160

<210> 994

<211> 622

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(622)

<223> n = A,T,C or G

<400> 994

nagcctganc	cagcagatcg	agaacatccg	gagcccagag	ggcagccgca	agaacccccg	60
ccgcacctgc	cgtgacctca	agatgtgcc	ctctgactgg	aagagtggag	agtactggat	120
tgacccaac	caaggctgca	acctggatgc	catcaaagtc	ttctgcaaca	tgagactgg	180
tgagacctgc	gtgtacccca	ctcagcccag	tgtggcccag	aagaactggg	acatcagcaa	240
gaacccaag	gacaagaggc	atgtctggtt	cgccgagagc	atgaccgatg	gattccagtt	300
cgagtatggc	ggccagggct	ccgacctgc	cgatgtggcc	atccagctga	ccttcctgcg	360
cctgatgtcc	accgaggcct	cccagaacat	cacctaccac	tgcaagaaca	gcgtggccta	420
catggaccag	cagactggca	acctcaagaa	ggccctgctc	ctccagggct	ccaacgagat	480
cgagatccgc	gccgagggca	acagccgctt	cacctacagc	gtcactgtcg	atggctgcac	540
gagtcacacc	ggagcctggg	gcaagacagt	gattgaatac	aaaaccacca	agacctcccg	600
cctgcccatac	atcgatgtgg	cc				622

<210> 995

<211> 158

<212> DNA

<213> Homo sapien

<400> 995

aataagattt	tgccagaggg	gaaggctcga	ttgtgtgtgt	aataacttaa	taatgacaaa	60
ataatgaggt	gtatatgctt	tacatgcaat	gttataatagt	gaattgttct	gattcttaat	120
tgtaagtctg	gtttttttat	ctgtaagata	attgtgtg			158

<210> 996

<211> 295

<212> DNA

<213> Homo sapien

<400> 996

cgccgcgctc	gactctcgga	goggagacgg	caaattggcg	acttcgacac	ctacgacgat	60
cgggcctaca	gcagcttcgg	cgccggcaga	gggtcccgcg	gcagtgtctg	tgcccatggt	120
tcccgtagcc	agaaggagtt	gccacagag	ccccctaca	cagcatacgt	aggaaatcta	180
cctttcaata	cggttcaggg	cgacatagat	gctatcttta	aggatctcag	cataaggagt	240
gtacggctag	tcagagacaa	agacacagat	aaatttaaag	gattctgcta	tgtag	295

<210> 997

<211> 125

<212> DNA

<213> Homo sapien

<400> 997

cggccgccct	tttttttttt	ttttttaagg	ttttttggct	gtaagtttat	tcaatgcaaa	60
agaatcctct	ccaattttac	tgaggtggct	gaccacgtcc	acgaccaa	at cgcctctaa	120
actgg						125

<210> 998

<211> 152

<212> DNA

<213> Homo sapien

<400> 998

gagctgatgc	gggaaccggg	ccactcgtg	taggagcggc	tgctgaaggc	ccggggggcca	60
gaggtggaca	ccttgtagga	cttctgggtc	accctgatgg	acatggtaga	ggctggagtg	120
gaggcaggcg	ggccgaacca	ggcggagatc	ct			152

<210> 999

<211> 119

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(119)

<223> n = A,T,C or G

<400> 999

taaagcaacc	actaaaccac	ctncagcang	agaaagcagc	agagagctct	tcanacagct	60
cagactctga	cagctnngag	gatgatgaag	ctccttctaa	gccagctggt	accaccaag	119

<210> 1000

<211> 209

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(209)

<223> n = A,T,C or G

<400> 1000

ccctcnngag	gcggagagga	tcatgtccgg	gaactgcggg	gtagtagcga	tctgggttac	60
ccagccgttg	tgcccttga	gggtgccacg	aagggtcatc	tgctcagtca	tgccggcggc	120
gagagcgtgt	gtcgctgcag	cgacgaggat	ggcactggat	ggcttagaga	aactagcacc	180
acaacctctc	ctgcgtcgac	gcggccgcg				209

<210> 1001

<211> 390

<212> DNA

<213> Homo sapien

<400> 1001

gtggacacca	ccctcaagag	cctgagccag	cagatcgaga	acatccggag	cccagagggc	60
agccgcaaga	accccgcccg	cacctgccgt	gacctcaaga	tgtgccactc	tgactggaag	120
agtggagagt	actggattga	ccccaaccaa	ggctgcaacc	tgatgccat	caaagtcttc	180
tgcaacatgg	agactggtga	gacctgcgtg	tacccactc	agcccagtgt	ggcccagaag	240

aactggtaca	tcagcaagaa	ccccaaggac	aagaggcatg	tctggttcgg	cgagagcatg	300
accgatggat	tccagttcga	gtatggcggc	cagggctccg	accctgccga	tgtggccatc	360
cagctgacct	tcctgcgcct	gatgtccacc				390

<210> 1002

<211> 613

<212> DNA

<213> Homo sapien

<400> 1002

gtggacacca	ccctcaagag	cctgagccag	cagatcgaga	acatccggag	cccagagggc	60
agccgcaaga	accccgcccg	cacctgccgt	gacctcaaga	tgtgccactc	tgactggaag	120
agtggagagt	actggattga	ccccaaccaa	ggctgcaacc	tggatgccat	caaagtcttc	180
tgcaacatgg	agactggtga	gacctgcgtg	taccccaactc	agcccagtgt	ggcccagaag	240
aactggtaca	tcagcaagaa	ccccaaggac	aagaggcatg	tctggttcgg	cgagagcatg	300
accgatggat	tccagttcga	gtatggcggc	cagggctccg	accctgccga	tgtggccatc	360
cagctgacct	tcctgcgcct	gatgtccacc	gaggcctccc	agaacatcac	ctaccactgc	420
agaacacgcg	tggcctacat	ggaccagcag	actggcaacc	tcaagaaggc	cctgctcctc	480
cagggctcca	acgagatcga	gatccgcgcc	gagggcaaca	gccgcttcac	ctacagcgtc	540
actgtcgatg	gctgcacgag	tcacaccgga	gcctggggca	agacagtgat	tgaatacaaa	600
accaccaaga	cct					613

<210> 1003

<211> 639

<212> DNA

<213> Homo sapien

<400> 1003

gtggacacca	ccctcaagag	cctgagccag	cagatcgaga	acatccggag	cccagagggc	60
agccgcaaga	accccgcccg	cacctgccgt	gacctcaaga	tgtgccactc	tgactggaag	120
agtggagagt	actggattga	ccccaaccaa	ggctgcaacc	tggatgccat	caaagtcttc	180
tgcaacatgg	agactggtga	gacctgcgtg	taccccaactc	agcccagtgt	ggcccagaag	240
aactggtaca	tcagcaagaa	ccccaaggac	aagaggcatg	tctggttcgg	cgagagcatg	300
accgatggat	tccagttcga	gtatggcggc	cagggctccg	accctgccga	tgtggccatc	360
cagctgacct	tcctgcgcct	gatgtccacc	gaggcctccc	agaacatcac	ctaccactgc	420
agaacacgcg	tggcctacat	ggaccagcag	actggcaacc	tcaagaaggc	cctgctcctc	480
cagggctcca	acgagatcga	gatccgcgcc	gagggcaaca	gccgcttcac	ctacagcgtc	540
actgtcgatg	gctgcacgag	tcacaccgga	gcctggggca	agacagtgat	tgaatacaaa	600
accaccaaga	cctcccgccct	gcccacatc	gatgtgggc			639

<210> 1004

<211> 85

<212> DNA

<213> Homo sapien

<400> 1004

ccgttattcg	tcgtggctca	agcccgccca	cgccgccccca	agggctcctc	ccgacctccc	60
ggcctgccgc	tccggccact	gcggg				85

<210> 1005

<211> 636

<212> DNA

<213> Homo sapien

<400> 1005

gtggacacca	ccctcaagag	cctgagccag	cagatcgaga	acatccggag	cccagagggc	60
agccgcaaga	accccgcccg	cacctgccgt	gacctcaaga	tgtgccactc	tgactggaag	120
agtggagagt	actggattga	ccccaaccaa	ggctgcaacc	tggatgccat	caaagtcttc	180

280

tgeaacatgg	agactggtga	gacctgcggtg	tacccccactc	agcccagtggt	ggcccagaag	240
aactggtaca	tcagcaagaa	ccccaaaggac	aagaggcatg	tctggttcgg	cgagagcatg	300
accgatggat	tccagttcga	gtatggcggc	cagggctccg	accctgccga	tgtggccatc	360
cagctgacct	tcctgcgctt	gatgtccacc	gaggcctccc	agaacatcac	ctaccactgc	420
aagaacagcg	tggcctacat	ggaccagcag	actggcaacc	tcaagaaggc	cctgctcctc	480
cagggctcca	acgagatcga	gatccgcgcc	gagggcaaca	gccgcttcac	ctacagcgtc	540
actgtcgatg	gctgcacgag	tcacaccgga	gcctggggca	agacagtgat	tgaatacaaa	600
accaccaaga	cctcccgctt	gcccattcat	gatgtg			636

<210> 1006

<211> 629

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(629)

<223> n = A,T,C or G

<400> 1006

gtggacacca	ccctcaagag	cctgagccag	cagatcgaga	acatccggag	cccagagggc	60
agccgcaaga	accccgccc	cacctgccgt	gacctcaaga	tgtgccactc	tgactggaag	120
agtggagagt	actggattga	ccccaaacaa	ggctgcaacc	tggatgccat	caaagtcttc	180
tgaacatgg	agactggtga	gacctgcggt	tacccccactc	agcccagtggt	ggcccagaag	240
aactggtaca	tcagcaagaa	ccccaaaggac	aagaggcatg	tctggttcgg	cgagagcatg	300
accgatggat	tccagttcga	gtatggcggc	cagggctccg	accctgccga	tgtggccatc	360
cagctgacct	tcctgcgctt	gatgtccacc	gaggcctccc	agaacatcac	ctaccactgc	420
aagaacagcg	tggcctacat	ggaccagcag	actggcaacc	tcaagaangc	cctgctcctc	480
cagggctcca	acgagatcga	gatccgcgcc	gagggcaaca	gccgcttcac	ctacagcgtc	540
actgtcgatg	gctgcacgag	tcacaccgga	gcctggggca	agacagtgat	tgaatacaaa	600
accaccaaga	cctcccgctt	gcccattcat				629

<210> 1007

<211> 575

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(575)

<223> n = A,T,C or G

<400> 1007

gtggacacca	ccctcaagag	cctgagccag	cagatcgaga	acatccggag	cccagagggc	60
agccgcaaga	accccgccc	cacctgccgt	gacctcaaga	tgtgccactc	tgactggaag	120
agtggagagt	actggattga	ccccaaacaa	ggctgcaacc	tggatgccat	caaagtcttc	180
tgaacatgg	agactggtga	gacctgcggt	tacccccactc	agcccagtggt	ggcccagaag	240
aactggtaca	tcagcaagaa	ccccaaaggac	aagaggcatg	tctggttcgg	cgagagcatg	300
accgatggat	tccagttcga	gtatggcggc	cagggctccg	accctgccga	tgtggccatc	360
cagctgacct	tcctgcgctt	gatgtccacc	gaggcctccc	agaacatcac	ctaccactgc	420
aagaacagcg	tggcctacat	ggaccagcag	actggcaacc	tcaagaaggc	cctgctcctc	480
cagggctcca	acgagatcga	gatccgcgcc	gagggcaaca	gccgcttcac	ctacagcgtc	540
actgtcgatg	gctgcacgag	tcacaccgga	gcctg			575

<210> 1008

<211> 62

<212> DNA

<213> Homo sapien

<400> 1008
 cgatggagcg tgggtaggga ggggccacag tgtccactcg ccgtgtgcga aggttgactc 60
 gg 62

<210> 1009
 <211> 180
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(180)
 <223> n = A,T,C or G

<400> 1009
 gagctgatgc gggaaccggg cccactcgtg taggagcggc tgctgaaggc ccggggggcca 60
 gaggtggaca ccttgtagga cttctgggtc accctgatgg acatggtaga ggcaggagtg 120
 gaggcaggcg ggccgaacca ggcggagatc ctanaaggag cggaggtcga cgcggccgcg 180

<210> 1010
 <211> 169
 <212> DNA
 <213> Homo sapien

<400> 1010
 gaggcggcac aggtcacgca tggccagcac ggcagccatg gcgtgcgct cgctcatgtt 60
 tctcgccagg taggtctggg ccaggttctt gagtttgaag ctgctggccc cgggcacacg 120
 ctcccggatg agaggcaggg cagccaggaa gcccagatg gcctcctgg 169

<210> 1011
 <211> 170
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(170)
 <223> n = A,T,C or G

<400> 1011
 gagctgatgc gggaaccggg cccactcgtg taggagcggc tgctgaaggc ccggggggcca 60
 gaggtggaca ccttgtagga cttctgggtc accctgatgg acatggtaga ggctggagtg 120
 gaggcaggcg ggccgaacca ggcggagatc ctagaaggag cggaggtcga 170

<210> 1012
 <211> 344
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(344)
 <223> n = A,T,C or G

<400> 1012
 gtggacacca ccctcaagag cctgagccag cagatcgaga acatccggag ccagagggc 60
 agccgcaaga accccgcccg cacctgccgt gacctcaaga tgtgccactc tgactggaag 120

```

agtggagagt actggattga ccccaaccaa ggctgcaacc tggatgccat caaagtcttc 180
tgcaacatgg agactggtga gacctgcgtg taccctactc agcccagtgg nccanaanaa 240
ctggnncatc ngcangaacc ccnnggacan gaggcntgtc tggttcggcg agagcatgac 300
cnatggattc canttnnagt atggnggccca gggctccgac cctg 344

```

<210> 1013

<211> 157

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(157)

<223> n = A,T,C or G

<400> 1013

```

atagaacccc gcccgcacct nncgtgacct caagatgtgc cactctgact ggaagagtgg 60
agagtactgg attgacccca accaaggctg caacctggat gccatcaaag tcttctgcaa 120
catgganact ggtganncct gcgtgtaccc cactcag 157

```

<210> 1014

<211> 621

<212> DNA

<213> Homo sapien

<400> 1014

```

gtggacacca ccctcaagag cctgagccag cagatcgaga acatccggag cccagagggc 60
agccgcaaga accccgcccg cacctgccgt gacctcaaga tgtgccactc tgactggaag 120
agtggagagt actggattga ccccaaccaa ggctgcaacc tggatgccat caaagtcttc 180
tgcaacatgg agactggtga gacctgcgtg taccctactc agcccagtgt ggcccagaag 240
aactggtaca tcagcaagaa cccaaggac aagaggcatg tctggttcgg cgagagcatg 300
accgatggat tccagttcga gtatggcggc cagggctccg accctgccga tgtggccatc 360
cagctgacct tcctgcgctt gatgtccacc gaggcctccc agaacatcac ctaccactgc 420
aagaacagcg tggcctacat ggaccagcag actggcaacc tcaagaaggc cctgctcctc 480
cagggctcca acgagatcga gatccgcgcc gagggcaaca gccgcttcac ctacagcgtc 540
actgtcgatg gctgcacgag tcacaccgga gcctggggca agacagtgat tgaatacaaa 600
accaccaaga cctcccgcct g 621

```

<210> 1015

<211> 104

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(104)

<223> n = A,T,C or G

<400> 1015

```

gtggacacca ccctcaagag cctgagccag cagatcgaga acatccggag cccagagggc 60
agccgcaaga accccgcccg cacctgccgt nctcnagatg tgcc 104

```

<210> 1016

<211> 101

<212> DNA

<213> Homo sapien

<400> 1016

gctgaccagg cggaagagg agctgcccat gaaggggggc accctgggcg ggatccctgg 60
 ggagcccgcc gtggaccacc gagatgtgga tgagctgctg g 101

<210> 1017

<211> 172

<212> DNA

<213> Homo sapien

<400> 1017

acatitttatg acctctccca ataggggcag aggtgagcac ccctggtgaa aagttaagac 60
 tcagttagta taaatacgcc aagaagagct gtggcttctt tctactggtg cctcagaaag 120
 gctgtgagca gtgttggtgg catacctgtc acagcatcta gcaaagcacc tg 172

<210> 1018

<211> 637

<212> DNA

<213> Homo sapien

<400> 1018

gtggacacca ccctcaagag cctgagccag cagatcgaga acatccggag cccagagggc 60
 agccgcaaga accccgccc cactgcccgt gacctcaaga tgtgccactc tgactggaag 120
 agtggagagt actggattga cccaaccaa ggctgcaacc tggatgcat caaagtcttc 180
 tgcaacatgg agactggtga gacctgcgtg taccctactc agcccagtgt ggcccagaag 240
 aactggtaca tcagcaagaa cccaaggac aagaggcatg tctggttcgg cgagagcatg 300
 accgatggat tccagttcga gtatggcggc cagggctccg accctgccga tgtggccatc 360
 cagctgacct tcctgcgcct gatgtccacc gaggcctccc agaacatcac ctaccactgc 420
 aagaacagcg tggcctacat ggaccagcag actggcaacc tcaagaaggc cctgctcctc 480
 cagggctcca acgagatcga gatccgcgcc gagggcaaca gccgcttcac ctacagcgtc 540
 actgtcgatg gctgcacgag tcacaccgga gcctggggca agacagtgat tgaatacaaa 600
 accaccaaga cctcccgccct gcccatcatc gatgtgg 637

<210> 1019

<211> 623

<212> DNA

<213> Homo sapien

<400> 1019

gtggacacca ccctcaagag cctgagccag cagatcgaga acatccggag cccagagggc 60
 agccgcaaga accccgccc cactgcccgt gacctcaaga tgtgccactc tgactggaag 120
 agtggagagt actggattga cccaaccaa ggctgcaacc tggatgcat caaagtcttc 180
 tgcaacatgg agactggtga gacctgcgtg taccctactc agcccagtgt ggcccagaag 240
 aactggtaca tcagcaagaa cccaaggac aagaggcatg tctggttcgg cgagagcatg 300
 accgatggat tccagttcga gtatggcggc cagggctccg accctgccga tgtggccatc 360
 cagctgacct tcctgcgcct gatgtccacc gaggcctccc agaacatcac ctaccactgc 420
 aagaacagcg tggcctacat ggaccagcag actggcaacc tcaagaaggc cctgctcctc 480
 cagggctcca acgagatcga gatccgcgcc gagggcaaca gccgcttcac ctacagcgtc 540
 actgtcgatg gctgcacgag tcacaccgga gcctggggca agacagtgat tgaatacaaa 600
 accaccaaga cctcccgccct gcc 623

<210> 1020

<211> 233

<212> DNA

<213> Homo sapien

<400> 1020

ggtagagaac cctgoggctg cgctttcggg gccgcgcaga ggcgctgggg cgcccggcag 60
 gggccgctgc gggctccggg agagggtcga aggtgaagat ctcaggaccg gagccccgcc 120
 ggggtcccgg gatggtggag ggggcccggg tcggggcctg caggatggtc atggtcgggt 180

ggcagctgcg agagtgacac atggtgagcc gagcggaggt cgacgcggcc gcg 233

<210> 1021

<211> 180

<212> DNA

<213> Homo sapien

<400> 1021

gagctgatgc	gggaaccggg	cccactcgtg	taggagcggc	tgctgaaggc	ccggggggcca	60
gaggtggaca	ccttgtagga	cttctgggtc	accctgatgg	acatggtaga	ggcaggagtg	120
gaggcaggcg	ggccgaacca	ggcggagatc	ctagaaggag	cggaggtcga	cgcgggccgcg	180

<210> 1022

<211> 636

<212> DNA

<213> Homo sapien

<400> 1022

gtggacacca	ccctcaagag	cctgagccag	cagatcgaga	acatccggag	cccagagggc	60
agccgcaaga	accccgccc	cacctgccgt	gacctcaaga	tgtgccactc	tgactggaag	120
agtggagagt	actggattga	ccccaaccaa	ggctgcaacc	tgatgccat	caaagtcttc	180
tgcaacatgg	agactgggtga	gacctgcgtg	tacccactc	agcccagtgt	ggcccagaag	240
aactggtaca	tcagcaagaa	ccccaaggac	aagaggcatg	tctggttcgg	cgagagcatg	300
accgatggat	tccagttcga	gtatggcggc	cagggctccg	accctgccga	tgtggccatc	360
cagctgacct	tcctgcgcct	gatgtccacc	gaggcctccc	agaacatcac	ctaccactgc	420
aagaacagcg	tggcctacat	ggaccagcag	actggcaacc	tcaagaaggc	cctgtctctc	480
cagggctcca	acgagatcga	gatccgcgcc	gagggcaaca	gccgcttcac	ctacagcgtc	540
actgtcgatg	gctgcacgag	tcacaccgga	gcctggggca	agacagtgat	tgaatacaaa	600
accaccaaga	cctccgcct	gcccattcatc	gatgtg			636

<210> 1023

<211> 162

<212> DNA

<213> Homo sapien

<400> 1023

aggcggagag	gatcatgtcc	gggaactgcg	gggtagtagc	gatctggggt	accagccgt	60
tgtggccctt	gagggtgcca	cgaagggtca	tctgctcagt	catggcggcg	gcgagagcgt	120
gtgtcgctgc	agcgacgag	atggcacgtc	gacgcggccg	cg		162

<210> 1024

<211> 124

<212> DNA

<213> Homo sapien

<400> 1024

tccactagtc	cagtgtggtg	gaattcgcg	ccgcgtcgac	gccgagcagg	aggcgccatc	60
atgggagtgg	acatccgcca	taacaaggac	cgaaagggtc	ggcgcaagga	gccaagagc	120
cagg						124

<210> 1025

<211> 635

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(635)

285

<223> n = A,T,C or G

<400> 1025

```

gcccccaatt ccagctgcc a caccacccac ggtgactgca ttagttogga tgtcatacaa      60
aagctgattg aagcaaccct ctactttttg gtcgtgagcc ttttgcttgg tgcaggtttc      120
attggctgtg ttggtgacgt tgtcattgca acagaatggg ggaaaggcac tgttctcttt      180
gaagtagggg gagtcctcaa aatccgtata gttggtgaag ccacagcact tgagcccttt      240
catggtgggt ttccacactt gagtgaagtc ttctgggaa ccataatctt tcttgatggc      300
aggcactacc agcaacgtca ggaagtgtct agccattgtg gtgtacacca aggcgaccac      360
agcagctgca acctcagcaa tgaagatgag gaggaggatg aagaagaacg tcacgagggc      420
acacttgctc tcagtcttag caccatagca gcccaggaaa ccaagagcaa agaccacaac      480
gccggctgcg atgaggaagt agcccacgtt gacaaactgc atggcactgg acgacagtgg      540
cccgaagatc ttcagaaagg atgccccatc gattgacacc cagatgocca ctgccaacag      600
ggctgcacca cacagaanga tgagcaaatt gaaga                                     635

```

<210> 1026

<211> 355

<212> DNA

<213> Homo sapien

<400> 1026

```

ccatctgctg ttttttctca gcaccttccg tcttttgttc aatacttgag acgaccctcc      60
aagatgacct acgggctcct acaacatttt tataagcaac tgagagaaga ttctctcct      120
cattggataa ttcagctcct tgctcagtta cagacttcat gcaggctgcc atgtcatcat      180
atcgctcagc ctgctcggcc agtttggcct tctgaaccag ctcatTTTTA tccatgactg      240
gatgttctgt gtccggagtg ggtggtggcg gcggacggac gggctcagca gtctctgggc      300
ggcggcggcg gcagcagcgg cgaggctgag actctgtccc gtcgacgcgg ccgcg       355

```

<210> 1027

<211> 148

<212> DNA

<213> Homo sapien

<400> 1027

```

tgccaccctg gtgcccata ctgtggcctt ggtgcccagg aggggccaga gctgggtgggt      60
gctggctgtt ctctccctc tggccctgag cccctggctc tggagctgcc tgtaggggct      120
gaagggccat cccactgcca ttctccgg                                     148

```

<210> 1028

<211> 479

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(479)

<223> n = A,T,C or G

<400> 1028

```

ggcgtcctgg tgcttaccac ctggaaaactg gtgaggtggt gggagaactc ctggtggacc      60
ctagtggaa g ccttccagta atttcttgaa gctgagcgct caggtagagta gggcgacatc      120
tggtggccgg ttgttgaagg tcattgcaga gaggaaggaa gccgaggagg ggagcctgca      180
gtgagggcgt cctgggggtc tccggttctc accacccttg ggccacgccg tctagtccac      240
acctgaggag ttggtcaggt agaaggggcg gatgaccgtg cggaagccgt tgaagtgcc      300
tgccgggcag gggaaggagg aggtgctctt cgagctgttg gtgtccaggg cactgggaat      360
cgagccttc cagccctcga aatcggtgac gtctgccacg aagagccctt cgagagcat      420
cagggctttg ttttcgtang caatggtgag atctgagccg ccagacttgg tgaggccca      479

```

<210> 1029
 <211> 64
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(64)
 <223> n = A,T,C or G

<400> 1029
 gcgtnnatgt agttcttgag cacctcggga atggggcccct cgggtcacggc tggcaccgcc 60
 tggg 64

<210> 1030
 <211> 531
 <212> DNA
 <213> Homo sapien

<400> 1030
 cctgtcagag tggcactggt agaagttcca ggaaccctga actgtaaggg ttcttcatca 60
 gtgccaacag gatgacatga aatgatgtac tcagaagtgt cctggaatgg ggcccatgag 120
 atggttgtct gagagagagc ttcttgtcct acattcggcg ggtatggtct tggcctatgc 180
 cttatggggg tggccggtgt gggcgggtgt gtccgcctaa aaccatgttc ctcaaagatc 240
 atttgttgcc caacactggg ttgctgacca gaagtgccag gaagctgaat accatttcca 300
 gtgtcatacc cagggtgggt gacgaaaggg gtcttttgaa ctgtggaagg aacatccaag 360
 atctctggtc catgaagatt ggggtgtgga agggttacca gttggggaag ctctgtctgtc 420
 tttttccttc caatcagggg ctctgtcttc tgattattct tcagggcaat gacataaatt 480
 gtatattcgg ttcccgggtc caggccagta atagtagcct ctgtgacacc a 531

<210> 1031
 <211> 518
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(518)
 <223> n = A,T,C or G

<400> 1031
 cctgggtggt ggagcgaatg ggccgattcc accggatcct ggagcctggt ttgaacatcc 60
 tcatccctgt gttagaccgg atccgatatg tgcagagtct caaggaaatt gtcacaaacg 120
 tgcttgagca gtcggctgtg actctcgaca atgtaactct gcaaaticgat ggagtccttt 180
 acctgcgcat catggaccct tacaaggcaa gctacggtgt ggaggaccct gagtatgccg 240
 tcaccagct agtcaaaca accatgagat cagagctcgg caaactctct ctggacaaaag 300
 tcttcgaggga acgggagtc ctgaatgcc gcatgtgtgga tgccatcaac caagctgctg 360
 actgctgggg tatccgctgc ctccgttatg agatcaagga tatccatgtg ccaccccggg 420
 tgaaagagtc tatgcagatg cangtggagg cagagcggcg gaaacggggc acagttctag 480
 agtctgaggg gacccgagag tcggccatca atgtggca 518

<210> 1032
 <211> 116
 <212> DNA
 <213> Homo sapien

<400> 1032
 aaatatttat gtggaattaa ttaaaggtag ttggctatat cgctatcatt tcattctttt 60

gacattatgt gaatatTTTta ctggaaaata agactaataa attgttaaaa gTTTT 116

<210> 1033

<211> 241

<212> DNA

<213> Homo sapien

<400> 1033

caaggggtcat	gatggcagga	gtaatcagag	gtgttcttgt	gttgtgataa	gggtggagag	60
gttaaaggag	ccacttatta	gtaatgttga	tagtagaatg	atggctaggg	tgacttcata	120
tgagattgtt	tgggctactg	ctcgcaagtgc	gccgatcagg	gcgtagtttg	agtttgatgc	180
tcaccctgat	cagaggattg	agtaaacggc	taggctagag	gtggctagaa	taaataggag	240
g						241

<210> 1034

<211> 234

<212> DNA

<213> Homo sapien

<400> 1034

ccacagctgg	gcgcttcacc	cagtgggtact	ttgggtgccta	ctccattgtg	gcggggcgtgt	60
ttgtgtgcct	gctggagtac	ccccggggga	agaggaagaa	gggctccacc	atggagcgct	120
ggggacagaa	gcacatgacc	gccgtgggtga	agctgttcgg	gccctttacc	aggaattact	180
atgttcgggc	cgctctgcat	ctcctgctct	cggtgcccgc	cggcttcctg	ctgg	234

<210> 1035

<211> 434

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(434)

<223> n = A,T,C or G

<400> 1035

gtacaagctt	TTTTTTTTTT	TTTTTTTTTT	TTTTTTTTng	gntacggnag	cacttttatt	60
tttccttaca	caatgacgtg	ttgctggggc	ctaattgtct	cacataacag	tanaaaacca	120
aaatttggtg	tcatntnttc	aaagaatcga	naattgcgta	caaaaaaaaaac	cttacataaa	180
ttaanaatga	atacattttac	aggcgtaaat	gcaaaccgnt	tccaactnaa	agcaagtaac	240
agcccacggn	gttntggcca	aagacatnag	ntaanaaagg	aaactgggtc	ctacggcttg	300
gactttncaa	ccctgacaga	cccgaagac	aaaacaactg	gttnttgcca	gcctntanag	360
aatcccan	acactnagcc	ctgacacgtt	aataccctgc	acanatcana	ggctgntggc	420
cacacanact	cacc					434

<210> 1036

<211> 294

<212> DNA

<213> Homo sapien

<400> 1036

aaagccatgg	gaacccagat	caccagatcc	ggagcctgac	tctagcccct	gagccacctg	60
ttgccctaac	accctgtctg	actctctccc	gctgcagcag	ccagtccttc	ctgcactcca	120
gcaactccag	ccatcagtc	tcttccagat	ccttggaag	tccagccaac	tcttctcca	180
gcctccacag	ccttggctca	gtgtccctgt	gtacaagacc	cagtgacttc	caggctccca	240
gaaacccac	cctaaccatg	ggccaaccca	gaacaccca	ctctccacca	ctgg	294

<210> 1037

<211> 547
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(547)
 <223> n = A,T,C or G

<400> 1037
 aaagatatga acagcttaat ttccogtgtg attatctaataaaaaagaa aaacnnaaca 60
 agcnnaatgt tcaagttaaa aaaaaaacat accgggtgag caatgcacta aaattatcca 120
 catgaaaaca aatgggtctgt aatcttataa accaaccatag catttctactg tcaacaatgt 180
 gaaaatttaa tatcttctca aacaggcata agatgaagaa gtgctatttt ttaattgtaa 240
 aaggaactta tgtaatgnta aaattacatt ataatttttc attccgaatt gacaaatgat 300
 ttcaaaaaca aggnatcaaa gtttgactgc aaatagtaat gcaatataat ttcataaaaa 360
 tccttcaatt tctatTTTTT tccttttctg tagttgacat atgaagacca cttcaatttc 420
 taaaaaaggg aaccattcca attttccctc cccaagaaaa tgtctcacia ttacaaagta 480
 gaaaaacagc cgttcataaa atgcaaaaaa aanttctgat tttatacatg aaataatttc 540
 tagatca 547

<210> 1038
 <211> 451
 <212> DNA
 <213> Homo sapien

<400> 1038
 ccactctgcc caggagctgc cgaccatcag gacgcctgca gacatttaca gagcctttgt 60
 tgatgttgtg aatggagaat atgtccctcg caaatccatc ctgaagtctc gaagtagaga 120
 gaatagtgtg tgtagcgaca ctagtgaaag cagtgtctgt gaatttgatg ataggcgggg 180
 agttttgagg agtatcagct gcgaagaagc cacttgcagt gacaccagtg agagcatttt 240
 ggaagaggaa ccacaagaaa atcaaaagaa acttttgccc ttatcagtaa cacctgaggc 300
 tttttctgga actgttatag aaaaagaatt tgtatcacct tccttaacac caccctcagc 360
 cattgtctcat cccgcactac ccactattcc agaacgaaag gaagttctgt tggaagcatc 420
 tgaagaaact ggaaagaggg tttcaaagtt t 451

<210> 1039
 <211> 533
 <212> DNA
 <213> Homo sapien

<400> 1039
 ccaagcccgt gcaccgtttt ttgtaaggta tctctttaag cgcttgggac cccaagcgag 60
 agtccgaaat tagcagagcg ctaaaaggag gggcccgaag gcagtggggc tttgagctag 120
 aagcctcttt ttacctgctt gacaggtaat ttctgtaatt ggttgtgatt gaatttgata 180
 gggtagagaa ttaaattgagg gaagctgtgt atacttctta gtaagagcta ttatatgact 240
 gattacatta acatcatatg gaaaaaaatt gtcaaaagta ctccgggaaa gcccttaaat 300
 agtttggtaaa gtacagaaca catgattgtc aatatatgta aatacaggat gagctaggac 360
 agagggggccc ttctttcaca ccacttaaat tagttcccac tttaaccttg tttgagattg 420
 acttctggag agttaaatgc agatagactt aactctccta agtcaggtga gactgagagc 480
 tgactgtctac aataattacg gagcccaaat gcagtaaaac agcctgtttt tca 533

<210> 1040
 <211> 317
 <212> DNA
 <213> Homo sapien

<220>

<221> misc_feature
 <222> (1)...(317)
 <223> n = A,T,C or G

<400> 1040
 tgctgtctgg ggattactcg atcaaaacct tccttccttg gctacttccc ttctctccgg 60
 ggcttccctt ttgaggagct ggaggggtgg ggagctagag gccacctatg ccagtgtca 120
 aggttactgg gactgtgggc tgcccttgnt gcctgcaccc ttccctcttc cctctccctc 180
 tctctgggac cactgggtac aagagatggg atgctccgac agcgtctnca attatgaaac 240
 taatcttaac ccctgtgctg tcagataccc tgtttctgga gtcacatcag tgaggaggga 300
 tgtgggtaag aggagca 317

<210> 1041
 <211> 407
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(407)
 <223> n = A,T,C or G

<400> 1041
 ccaagacagt ccacttacat ggatcgtgtc ttcaagcaat ttgtncaage catggttgag 60
 catggacatg aactctctta acatgtantt ctttgggtgc attttgtctg aaccacaatt 120
 gtgaaggcag ctacagcttag tgcacaaatt ttaactgttg tatataaage aaataagtca 180
 gcanatgggt gaagaggtcc agaatgatat gcaaaaacta ctttttagag aaacananca 240
 actttgtagc aacaaattaa atatagtatt agattgttac ttacgtagat tttattttta 300
 ctatgcctta ccaagtacat ccttaaacia agtagtatgt acatgaaatt gcacttaacc 360
 aaaactattg tgtaaaacia atttttaatt cctcagggtt ttaattt 407

<210> 1042
 <211> 519
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(519)
 <223> n = A,T,C or G

<400> 1042
 ccaccacacc caattccttg ctggtatcat ggcagccgcc acgtgccagg attaccggct 60
 acatcatcaa gtatgagaag cctgggtctc ctcccagaga agtgggtccct cggccccgcc 120
 ctggtgtcac agaggctact attactggcc tggaaaccggg aaccgaatat acaatttatg 180
 tcattgccct gaagaataat cagaagagcg agcccctgat tgggaaggaaa aagacagacg 240
 agcttcccca actggttaacc ctccacacc ccaatcttca tggaccagag atcttggtatg 300
 ttcttccac agttcaaaag acccctttcg tcacccaccc tgggtatgac actggaaatg 360
 gtattcagct tcctggcact tctggtcagc aaccagtggt tgggcaacia atgatctttg 420
 aggaacatgg ttttaggcgg accacacggg cccacaacgg ncacccccat aaaggcatag 480
 gccaaagacc ataccgcggc aatgtaggac aagaaagct 519

<210> 1043
 <211> 294
 <212> DNA
 <213> Homo sapien

<400> 1043

290

ccatgacagc	agctactgct	tcacatagca	gcatacgcca	catgttcacc	ttcaatatatt	60
ttccagtctg	tctatctttc	tccacacagt	agcagctatc	atagaactct	gtgaaagcag	120
ttgccagctc	atatatataa	tcacagagag	tgtggagaaa	taagtcatct	aaaatctttt	180
gcagaatctc	agggaaccgt	aaaatgcacc	ggcctagttt	ccattccttc	tcatgatcca	240
aaagaatctt	ggtttctcga	gcagcttttt	ggagcatttc	ttcatcaata	ttgg	294

<210> 1044

<211> 384

<212> DNA

<213> Homo sapien

<400> 1044

ccaggcgctc	cttgctcgga	tcagggaggg	tggccttgaa	ctgctcatgg	gctgtgggtca	60
gtccctggat	ctcctcaatg	gtgtgcacaa	tgaagggtgc	ctgcagggtcc	tccatggccc	120
cctccatcca	gttggtgaag	ggtgcagccc	gcttggcata	ctccaagtac	agctgggtcaa	180
tggctccag	cagtttctcg	gtccgctcca	gagcttccct	tcgcttctga	gttagggccc	240
ccagattgtc	ccactgggtca	cagatctttt	ggcaacgggc	gttgacactg	ggtgagtcac	300
aatagtccag	ctcattgagc	tcctgtgcga	tggcggcaat	ctgctccaca	cggtcctggt	360
gggcagccag	gtcactctcg	aagg				384

<210> 1045

<211> 456

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(456)

<223> n = A,T,C or G

<400> 1045

aaaactaatg	ttacaaatct	gtattatcac	ttgtatataa	atagtatata	gctgatcatt	60
aataagggtg	ataagtacaa	tgtattctaa	aactgttaag	caaaaaaaaa	aaacaaanna	120
aaaatccaag	tgtcctcctc	caccactcac	gctgggtgatc	actgtgctct	ctgccagctg	180
cgtggagtga	cgggaggagg	gaatcactgt	gtgtgcgaga	gtgcttcaga	ctcaatttcc	240
aaaataatth	tcacccctct	aagcatgtaa	atatacaaa	atggatcctt	catagaaatt	300
aaaaaatcaa	tttgagctca	tttcgaatac	agaacaagta	tggcacagat	ggaagtcctg	360
ccacgtttcc	tttaatgatg	ctgactcttg	tatcacacag	gccagcatga	agtttcttac	420
tcagacttta	caggcatttt	ccgtaattca	atcagt			456

<210> 1046

<211> 136

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(136)

<223> n = A,T,C or G

<400> 1046

atnatctgtt	tctaaacgaa	agctgcngcg	gaatgagagt	gagccttcag	agatgaaagc	60
catggctctg	aaagggtggc	gggcagaagg	aacctnctgt	tcanctaaaa	gtgaggagtc	120
tcttacatct	ctccat					136

<210> 1047

<211> 453

<212> DNA

<213> Homo sapien

<400> 1047

aaaaaaaaatcc	aaatgctggc	attgtccaga	aaaattttaac	aggtttattt	ataattatta	60
taaagttgaa	ccgctgaaac	ttgttcactg	aaacatttta	acttgatta	atgctttacg	120
tctccgcatt	tatattaaaa	attcacacac	aaatgaaaat	ggaaaaactg	ccaatacctg	180
atttctgtcc	cctatttttc	cactcgcaat	catatactta	ggtacctttt	gaccccatgg	240
aaaaaaaaata	tctaacgttc	agaactacca	ataacaggaa	gaagagaaat	tttttttttt	300
tttttgggaa	tgaaatgttt	cccatcatag	tggattctta	agcacgttct	ccacgtatgc	360
ggcgtgctag	ctggatgtct	tttggcataa	ttgttacacg	tttggcatgg	atagcacaca	420
ggttggtgtc	ttcaaaaagg	ccaaccagat	agg			453

<210> 1048

<211> 219

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(219)

<223> n = A,T,C or G

<400> 1048

aaaatcacaa	acnttaacgg	cagtaggcac	caccatgtaa	aagtgaagctc	agacgtctct	60
aaaaaatggt	tcctttataa	aagcacatgg	cggttgaatc	ttaagggttaa	attttaatat	120
gaaagatcct	catgaattaa	atagttgatg	caatttttaa	cgtaaattga	tataaaaaaa	180
aacaacaaaa	ttaggcttgt	aaaactgact	ttttcatta			219

<210> 1049

<211> 2465

<212> DNA

<213> Homo sapiens

<400> 1049

agcaataaat	caatttagca	ttacaaaaaa	cagggatggg	agggaaaata	gaaggagaaa	60
actctaaaat	aggatgatgat	aatgaaaatt	taacctttta	attagaagta	aatgagctga	120
gtggtaaatt	agacaacact	aacgaatata	atagtaatga	tggtaagaaa	ttacccaggg	180
gtgaatcacg	aagttacgaa	gtcatgggaa	gtatggaaga	aaccttatgc	aatatagatg	240
acagagatgg	aaatcgcaat	gtccatttag	aatttacaga	aagagagagt	aggaaggatg	300
gagaggatga	atthgtcaaa	gaaatgagag	aggaaaagaa	atthcagaaa	ttgaagaata	360
aagaggaggt	tttaaaagcc	tccagagaag	aaaaagtgtt	gatggatgaa	ggagcagtag	420
ttacctggc	agccgacctt	tcatcagcaa	cactggatat	tagtaagcaa	tggagtaatg	480
tcttcaacat	tctgagagaa	aatgattttg	aacctaaatt	tctgtgtgaa	gttaaattag	540
catttaaatg	tgatggtgaa	ataaagacat	tttcagatct	gcaaagcctt	agaaaatttg	600
ccagccaaaa	atcttctatg	aaagaattac	tgaaagatgt	actcccacaa	aaggaagaaa	660
taaatcaagg	aggaagaaaa	tatggaattc	aagaaaaaag	ggataaaaacc	ctaatagact	720
caaagcatag	agctggagaa	ataaccagtg	atggcttgag	cttcctattt	cttaagaag	780
taaaagttgc	taagccagag	gagatgaaaa	acttagagac	tcaagaggaa	gagttttccg	840
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aaggaaagag	ctctgaaaca	ggaaaggtta	agactacctc	cctgactgag	aaaaaagcct	1200
cacgtagaca	aaaaagaaatt	ccctttagtt	atthgttggtg	ggactctggg	aagaaaaagt	1260
tggtgaaaca	ccaggtggtg	cacaaaaccc	aggaggaaga	ggaaacagct	gtgccacaaa	1320
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tcaccaaact	taagaaaaca	gaagaaaaga	aacacagaac	tctgcacaca	gaagaactaa	1500
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atatacctta	gcacgccagg	gtgactacaa	acaatatgct	ttcctcccc	agcatgcatc	2340
caaaaatcaa	caagtaaaac	gaaaatacac	ttctaccag	aaggatggac	agctaatagc	2400
gtacttgggg	atgaggagca	aggaatatta	cagatattac	ctagatgtta	ataaagggtg	2460
tgttt						2465

<210> 1050

<211> 3120

<212> DNA

<213> Homo sapiens

<400> 1050

aaaggaaaca	caagttgctt	ttgataaacac	atgatgcaaa	gaaagaatta	gaaagaatga	60
gcaatgaagc	cgggtataaat	gacaaacaag	tgtccaaagg	cccaagaagt	tactaccaaa	120
agctttcaaa	caatattggt	ttatcttttaa	agacacatcc	atagcatact	ttaaaaataa	180
ggaacttgaa	caaggagaac	cacaagaaaa	actaaatctt	agaggctgcg	aagttgtgcc	240
cgatgtaaat	gtagcaggaa	gaaaatttgg	aatcaagtta	ctaatacctg	ttgccgatgg	300
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ctgcatgttg	gcacgaagg	gcaaaaccat	ggcagacagc	tcctaccagc	cagaggctct	420
caacatcctt	tcatttctga	ggatgaaaaa	caggaactct	gcactctcagg	tggcttccag	480
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attctggact	aacagacaac	atacattcac	cgctgggtcac	ccagatcctc	attcaaacc	1140
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cacgtgtagc	aagaacaact	cttatttcac	aaactcaggt	atgaaacgaa	acgcctgtcc	1440
ttcatggaac	tgcttttagc	tcctgtcttt	tcaaaatggc	agagggtgtt	cctacacaca	1500
ctttttccct	ggaggccaag	gtctaggggt	agaaagggga	gggggtgggc	taccaggtag	1560
cagttgacaa	cccaagggtca	gaggagtggc	cctcagtgtc	atctgtccac	agtgatacct	1620
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cacctgccag	tgtcaaggat	tccagtcagg	tgtctatccc	aactggtcag	ggagagaagg	1920
gcagacccat	tctcaaagac	caccatgttc	aaggtctgac	agctccccc	tggctgcccc	1980

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<212> DNA

<213> Homo sapiens

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302

```

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```

<210> 1059

<211> 440

<212> PRT

<213> Homo sapiens

<400> 1059

```

Met Val Gly Lys Ile Glu Gly Glu Asn Ser Lys Ile Gly Asp Asp Asn
          5                      10                      15

```

```

Glu Asn Leu Thr Phe Lys Leu Glu Val Asn Glu Leu Ser Gly Lys Leu
          20                      25                      30

```

```

Asp Asn Thr Asn Glu Tyr Asn Ser Asn Asp Gly Lys Lys Leu Pro Gln
          35                      40                      45

```

```

Gly Glu Ser Arg Ser Tyr Glu Val Met Gly Ser Met Glu Glu Thr Leu
          50                      55                      60

```

```

Cys Asn Ile Asp Asp Arg Asp Gly Asn Arg Asn Val His Leu Glu Phe
          65                      70                      75                      80

```

```

Thr Glu Arg Glu Ser Arg Lys Asp Gly Glu Asp Glu Phe Val Lys Glu
          85                      90                      95

```

```

Met Arg Glu Glu Arg Lys Phe Gln Lys Leu Lys Asn Lys Glu Glu Val
          100                      105                      110

```

Leu Lys Ala Ser Arg Glu Glu Lys Val Leu Met Asp Glu Gly Ala Val
 115 120 125
 Leu Thr Leu Ala Ala Asp Leu Ser Ser Ala Thr Leu Asp Ile Ser Lys
 130 135 140
 Gln Trp Ser Asn Val Phe Asn Ile Leu Arg Glu Asn Asp Phe Glu Pro
 145 150 155 160
 Lys Phe Leu Cys Glu Val Lys Leu Ala Phe Lys Cys Asp Gly Glu Ile
 165 170 175
 Lys Thr Phe Ser Asp Leu Gln Ser Leu Arg Lys Phe Ala Ser Gln Lys
 180 185 190
 Ser Ser Met Lys Glu Leu Leu Lys Asp Val Leu Pro Gln Lys Glu Glu
 195 200 205
 Ile Asn Gln Gly Gly Arg Lys Tyr Gly Ile Gln Glu Lys Arg Asp Lys
 210 215 220
 Thr Leu Ile Asp Ser Lys His Arg Ala Gly Glu Ile Thr Ser Asp Gly
 225 230 235 240
 Leu Ser Phe Leu Phe Leu Lys Glu Val Lys Val Ala Lys Pro Glu Glu
 245 250 255
 Met Lys Asn Leu Glu Thr Gln Glu Glu Glu Phe Ser Glu Leu Glu Glu
 260 265 270
 Leu Asp Glu Glu Ala Ser Gly Met Glu Asp Asp Glu Asp Thr Ser Gly
 275 280 285
 Leu Glu Glu Glu Glu Glu Glu Pro Ser Gly Leu Glu Glu Glu Glu
 290 295 300
 Glu Glu Ala Ser Gly Leu Glu Glu Asp Glu Ala Ser Gly Leu Glu Glu
 305 310 315 320
 Glu Glu Glu Gln Thr Ser Glu Gln Asp Ser Thr Phe Gln Gly His Thr
 325 330 335
 Leu Val Asp Ala Lys His Glu Val Glu Ile Thr Ser Asp Gly Met Glu
 340 345 350
 Thr Thr Phe Ile Asp Ser Val Glu Asp Ser Glu Ser Glu Glu Glu Glu
 355 360 365
 Glu Gly Lys Ser Ser Glu Thr Gly Lys Val Lys Thr Thr Ser Leu Thr
 370 375 380
 Glu Lys Lys Ala Ser Arg Arg Gln Lys Glu Ile Pro Phe Ser Tyr Leu
 385 390 395 400
 Val Gly Asp Ser Gly Lys Lys Lys Leu Val Lys His Gln Val Val His
 405 410 415

304

Lys Thr Gln Glu Glu Glu Glu Thr Ala Val Pro Thr Ser Gln Gly Thr
 420 425 430

Gly Thr Pro Cys Leu Thr Leu Cys
 435 440

<210> 1060

<211> 230

<212> PRT

<213> Homo sapiens

<400> 1060

Met Asn Glu Met Tyr Leu Arg Cys Asp His Glu Asn Gln Tyr Ala Gln
 5 10 15

Trp Met Ala Ala Cys Met Leu Ala Ser Lys Gly Lys Thr Met Ala Asp
 20 25 30

Ser Ser Tyr Gln Pro Glu Val Leu Asn Ile Leu Ser Phe Leu Arg Met
 35 40 45

Lys Asn Arg Asn Ser Ala Ser Gln Val Ala Ser Ser Leu Glu Asn Met
 50 55 60

Asp Met Asn Pro Glu Cys Phe Val Ser Pro Arg Cys Ala Lys Arg His
 65 70 75 80

Lys Ser Lys Gln Leu Ala Ala Arg Ile Leu Glu Ala His Gln Asn Val
 85 90 95

Ala Gln Met Pro Leu Val Glu Ala Lys Leu Arg Phe Ile Gln Ala Trp
 100 105 110

Gln Ser Leu Pro Glu Phe Gly Leu Thr Tyr Tyr Leu Val Arg Phe Lys
 115 120 125

Gly Ser Lys Lys Asp Asp Ile Leu Gly Val Ser Tyr Asn Arg Leu Ile
 130 135 140

Lys Ile Asp Ala Ala Thr Gly Ile Pro Val Thr Thr Trp Arg Phe Thr
 145 150 155 160

Asn Ile Lys Gln Trp Asn Val Asn Trp Glu Thr Arg Gln Val Val Ile
 165 170 175

Glu Phe Asp Gln Asn Val Phe Thr Ala Phe Thr Cys Leu Ser Ala Asp
 180 185 190

Cys Lys Ile Val His Glu Tyr Ile Gly Gly Tyr Ile Phe Leu Ser Thr
 195 200 205

Arg Ser Lys Asp Gln Asn Glu Thr Leu Asp Glu Asp Leu Phe His Lys
 210 215 220

Leu Thr Gly Gly Gln Asp
 225 230

<210> 1061

<211> 311

<212> PRT

<213> Homo sapiens

<400> 1061

```

Met Tyr Val Ser Tyr Leu Leu Asp Lys Asp Val Ser Met Tyr Pro Ser
                    5                      10                      15

Ser Val Arg His Ser Gly Gly Leu Asn Leu Ala Pro Gln Asn Phe Val
                20                      25                      30

Ser Pro Pro Gln Tyr Pro Asp Tyr Gly Gly Tyr His Val Ala Ala Ala
                35                      40                      45

Ala Ala Ala Gln Asn Leu Asp Ser Ala Gln Ser Pro Gly Pro Ser Trp
                50                      55                      60

Pro Ala Ala Tyr Gly Ala Pro Leu Arg Glu Asp Trp Asn Gly Tyr Ala
                65                      70                      75                      80

Pro Gly Gly Ala Ala Ala Ala Asn Ala Val Ala His Ala Leu Asn Gly
                85                      90                      95

Gly Ser Pro Ala Ala Ala Met Gly Tyr Ser Ser Pro Ala Asp Tyr His
                100                      105                      110

Pro His His His Pro His His His Pro His His Pro Ala Ala Ala Pro
                115                      120                      125

Ser Cys Ala Ser Gly Leu Leu Gln Thr Leu Asn Pro Gly Pro Pro Gly
                130                      135                      140

Pro Ala Ala Thr Ala Ala Ala Glu Gln Leu Ser Pro Gly Gly Gln Arg
                145                      150                      155                      160

Arg Asn Leu Cys Glu Trp Met Arg Lys Pro Ala Gln Gln Ser Leu Gly
                165                      170                      175

Ser Gln Val Lys Thr Arg Thr Lys Asp Lys Tyr Arg Val Val Tyr Thr
                180                      185                      190

Asp His Gln Arg Leu Glu Leu Glu Lys Glu Phe His Tyr Ser Arg Tyr
                195                      200                      205

Ile Thr Ile Arg Arg Lys Ala Glu Leu Ala Ala Thr Leu Gly Leu Ser
                210                      215                      220

Glu Arg Gln Val Lys Ile Trp Phe Gln Asn Arg Arg Ala Lys Glu Arg
                225                      230                      235                      240

Lys Ile Asn Lys Lys Lys Leu Gln Gln Gln Gln Gln Gln Pro Pro
                245                      250                      255

Gln Pro Pro Pro Pro Pro Pro Gln Pro Pro Gln Pro Gln Pro Gly Pro
                260                      265                      270

```

306

Leu Arg Ser Val Pro Glu Pro Leu Ser Pro Val Ser Ser Leu Gln Ala
 275 280 285

Ser Val Ser Gly Ser Val Pro Gly Val Leu Gly Pro Thr Gly Gly Val
 290 295 300

Leu Asn Pro Thr Val Thr Gln
 305 310

<210> 1062

<211> 237

<212> PRT

<213> Homo sapiens

<400> 1062

Met Ala Gly Val Ser Ala Cys Ile Lys Tyr Ser Met Phe Thr Phe Asn
 5 10 15

Phe Leu Phe Trp Leu Cys Gly Ile Leu Ile Leu Ala Leu Ala Ile Trp
 20 25 30

Val Arg Val Ser Asn Asp Ser Gln Ala Ile Phe Gly Ser Glu Asp Val
 35 40 45

Gly Ser Ser Ser Tyr Val Ala Val Asp Ile Leu Ile Ala Val Gly Ala
 50 55 60

Ile Ile Met Ile Leu Gly Phe Leu Gly Cys Cys Gly Ala Ile Lys Glu
 65 70 75 80

Ser Arg Cys Met Leu Leu Leu Phe Phe Ile Gly Leu Leu Leu Ile Leu
 85 90 95

Leu Leu Gln Val Ala Thr Gly Ile Leu Gly Ala Val Phe Lys Ser Lys
 100 105 110

Ser Asp Arg Ile Val Asn Glu Thr Leu Tyr Glu Asn Thr Lys Leu Leu
 115 120 125

Ser Ala Thr Gly Glu Ser Glu Lys Gln Phe Gln Glu Ala Ile Ile Val
 130 135 140

Phe Gln Glu Glu Phe Lys Cys Cys Gly Leu Val Asn Gly Ala Ala Asp
 145 150 155 160

Trp Gly Asn Asn Phe Gln His Tyr Pro Glu Leu Cys Ala Cys Leu Asp
 165 170 175

Lys Gln Arg Pro Cys Gln Ser Tyr Asn Gly Lys Gln Val Tyr Lys Glu
 180 185 190

Thr Cys Ile Ser Phe Ile Lys Asp Phe Leu Ala Lys Asn Leu Ile Ile
 195 200 205

Val Ile Gly Ile Ser Phe Gly Leu Ala Val Ile Glu Ile Leu Gly Leu
 210 215 220

307

Val Phe Ser Met Val Leu Tyr Cys Gln Ile Gly Asn Lys
 225 230 235

<210> 1063
 <211> 80
 <212> PRT
 <213> Homo sapiens

<400> 1063
 Met Ala Ala Arg Ala Leu Cys Met Leu Gly Leu Val Leu Ala Leu Leu
 5 10 15
 Ser Ser Ser Ser Ala Glu Glu Tyr Val Gly Leu Ser Ala Asn Gln Cys
 20 25 30
 Ala Val Pro Ala Lys Asp Arg Val Asp Cys Gly Tyr Pro His Val Thr
 35 40 45
 Pro Lys Glu Cys Asn Asn Arg Gly Cys Cys Phe Asp Ser Arg Ile Pro
 50 55 60
 Gly Val Pro Trp Cys Phe Lys Pro Leu Gln Glu Ala Glu Cys Thr Phe
 65 70 75 80

<210> 1064
 <211> 323
 <212> PRT
 <213> Homo sapiens

<400> 1064
 Met Ala Tyr Val Pro Ala Pro Gly Tyr Gln Pro Thr Tyr Asn Pro Thr
 5 10 15
 Leu Pro Tyr Tyr Gln Pro Ile Pro Gly Gly Leu Asn Val Gly Met Ser
 20 25 30
 Val Tyr Ile Gln Gly Val Ala Ser Glu His Met Lys Arg Phe Phe Val
 35 40 45
 Asn Phe Val Val Gly Gln Asp Pro Gly Ser Asp Val Ala Phe His Phe
 50 55 60
 Asn Pro Arg Phe Asp Gly Trp Asp Lys Val Val Phe Asn Thr Leu Gln
 65 70 75 80
 Gly Gly Lys Trp Gly Ser Glu Glu Arg Lys Arg Ser Met Pro Phe Lys
 85 90 95
 Lys Gly Ala Ala Phe Glu Leu Val Phe Ile Val Leu Ala Glu His Tyr
 100 105 110
 Lys Val Val Val Asn Gly Asn Pro Phe Tyr Glu Tyr Gly His Arg Leu
 115 120 125
 Pro Leu Gln Met Val Thr His Leu Gln Val Asp Gly Asp Leu Gln Leu
 130 135 140

308

Gln Ser Ile Asn Phe Ile Gly Gly Gln Pro Leu Arg Pro Gln Gly Pro
 145 150 155 160
 Pro Met Met Pro Pro Tyr Pro Gly Pro Gly His Cys His Gln Gln Leu
 165 170 175
 Asn Ser Leu Pro Thr Met Glu Gly Pro Pro Thr Phe Asn Pro Pro Val
 180 185 190
 Pro Tyr Phe Gly Arg Leu Gln Gly Gly Leu Thr Ala Arg Arg Thr Ile
 195 200 205
 Ile Ile Lys Gly Tyr Val Pro Pro Thr Gly Lys Ser Phe Ala Ile Asn
 210 215 220
 Phe Lys Val Gly Ser Ser Gly Asp Ile Ala Leu His Ile Asn Pro Arg
 225 230 235 240
 Met Gly Asn Gly Thr Val Val Arg Asn Ser Leu Leu Asn Gly Ser Trp
 245 250 255
 Gly Ser Glu Glu Lys Lys Ile Thr His Asn Pro Phe Gly Pro Gly Gln
 260 265 270
 Phe Phe Asp Leu Ser Ile Arg Cys Gly Leu Asp Arg Phe Lys Val Tyr
 275 280 285
 Ala Asn Gly Gln His Leu Phe Asp Phe Ala His Arg Leu Ser Ala Phe
 290 295 300
 Gln Arg Val Asp Thr Leu Glu Ile Gln Gly Asp Val Thr Leu Ser Tyr
 305 310 315 320
 Val Gln Ile

<210> 1065
 <211> 957
 <212> PRT
 <213> Homo sapiens

<400> 1065
 Arg Asn Arg Pro His Thr Thr Ala Phe Pro Gly Ser Thr Thr Met Pro
 5 10 15
 Gly Val Ser Gln Glu Ser Thr Ala Ser His Ser Ser Pro Gly Ser Thr
 20 25 30
 Asp Thr Thr Leu Ser Pro Gly Ser Thr Thr Ala Ser Ser Leu Gly Pro
 35 40 45
 Glu Ser Thr Thr Phe His Ser Gly Pro Gly Ser Thr Glu Thr Thr Leu
 50 55 60
 Leu Pro Asp Asn Thr Thr Ala Ser Gly Leu Leu Glu Ala Ser Thr Pro
 65 70 75 80

Val His Ser Ser Thr Gly Ser Pro His Thr Thr Leu Ser Pro Ala Gly
 85 90 95
 Ser Thr Thr Arg Gln Gly Glu Ser Thr Thr Phe Gln Ser Trp Pro Asn
 100 105 110
 Ser Lys Asp Thr Thr Pro Ala Pro Pro Thr Thr Thr Ser Ala Phe Val
 115 120 125
 Glu Leu Ser Thr Thr Ser His Gly Ser Pro Ser Ser Thr Pro Thr Thr
 130 135 140
 His Phe Ser Ala Ser Ser Thr Thr Leu Gly Arg Ser Glu Glu Ser Thr
 145 150 155 160
 Thr Val His Ser Ser Pro Val Ala Thr Ala Thr Thr Pro Ser Pro Ala
 165 170 175
 Arg Ser Thr Thr Ser Gly Leu Val Glu Glu Ser Thr Thr Tyr His Ser
 180 185 190
 Ser Pro Gly Ser Thr Gln Thr Met His Phe Pro Glu Ser Asp Thr Thr
 195 200 205
 Ser Gly Arg Gly Glu Glu Ser Thr Thr Ser His Ser Ser Thr Thr His
 210 215 220
 Thr Ile Ser Ser Ala Pro Ser Thr Thr Ser Ala Leu Val Glu Glu Pro
 225 230 235 240
 Thr Ser Tyr His Ser Ser Pro Gly Ser Thr Ala Thr Thr His Phe Pro
 245 250 255
 Asp Ser Ser Thr Thr Ser Gly Arg Ser Glu Glu Ser Thr Ala Ser His
 260 265 270
 Ser Asn Gln Asp Ala Thr Gly Thr Ile Val Leu Pro Ala Arg Ser Thr
 275 280 285
 Thr Ser Val Leu Leu Gly Glu Ser Thr Thr Ser Pro Ile Ser Ser Gly
 290 295 300
 Ser Met Glu Thr Thr Ala Leu Pro Gly Ser Thr Thr Thr Pro Gly Leu
 305 310 315 320
 Ser Glu Lys Ser Thr Thr Phe His Ser Ser Pro Arg Ser Pro Ala Thr
 325 330 335
 Thr Leu Ser Pro Ala Ser Thr Thr Ser Ser Gly Val Ser Glu Glu Ser
 340 345 350
 Thr Thr Ser His Ser Arg Pro Gly Ser Thr His Thr Thr Ala Phe Pro
 355 360 365
 Asp Ser Thr Thr Thr Pro Gly Leu Ser Arg His Ser Thr Thr Ser His
 370 375 380

Ser Ser Pro Gly Ser Thr Asp Thr Thr Leu Leu Pro Ala Ser Thr Thr
 385 390 395 400
 Thr Ser Gly Pro Ser Gln Glu Ser Thr Thr Ser His Ser Ser Pro Gly
 405 410 415
 Ser Thr Asp Thr Ala Leu Ser Pro Gly Ser Thr Thr Ala Leu Ser Phe
 420 425 430
 Gly Gln Glu Ser Thr Thr Phe His Ser Ser Pro Gly Ser Thr His Thr
 435 440 445
 Thr Leu Phe Pro Asp Ser Thr Thr Ser Ser Gly Ile Val Glu Ala Ser
 450 455 460
 Thr Arg Val His Ser Ser Thr Gly Ser Pro Arg Thr Thr Leu Ser Pro
 465 470 475 480
 Ala Ser Ser Thr Ser Pro Gly Leu Gln Gly Glu Ser Thr Ala Phe Gln
 485 490 495
 Thr His Pro Ala Ser Thr His Thr Thr Pro Ser Thr Pro Ser Thr Ala
 500 505 510
 Thr Ala Pro Val Glu Glu Ser Thr Thr Tyr His Arg Ser Pro Ser Ser
 515 520 525
 Thr Pro Thr Thr His Phe Pro Ala Ser Ser Thr Thr Ser Gly His Ser
 530 535 540
 Glu Lys Ser Thr Ile Phe His Ser Ser Pro Asp Ala Ser Gly Thr Thr
 545 550 555 560
 Pro Ser Ser Ala His Ser Thr Thr Ser Gly Arg Gly Glu Ser Thr Thr
 565 570 575
 Ser Arg Ile Ser Pro Gly Ser Thr Glu Ile Thr Thr Leu Pro Gly Ser
 580 585 590
 Thr Thr Thr Pro Gly Leu Ser Glu Ala Ser Thr Thr Phe Tyr Ser Ser
 595 600 605
 Pro Arg Ser Pro Thr Thr Thr Leu Ser Pro Ala Ser Met Thr Ser Leu
 610 615 620
 Gly Val Gly Glu Glu Ser Thr Thr Ser Arg Ser Gln Pro Gly Ser Thr
 625 630 635 640
 His Ser Thr Val Ser Pro Ala Ser Thr Thr Thr Pro Gly Leu Ser Glu
 645 650 655
 Glu Ser Thr Thr Val Tyr Ser Ser Ser Pro Gly Ser Thr Glu Thr Thr
 660 665 670
 Val Phe Pro Arg Ser Thr Thr Thr Ser Val Arg Gly Glu Glu Pro Thr
 675 680 685
 Thr Phe His Ser Arg Pro Ala Ser Thr His Thr Thr Leu Phe Thr Glu

311

690	695	700
Asp Ser Thr Thr Ser Gly Leu Thr Glu Glu Ser Thr Ala Phe Pro Gly 705 710 715 720		
Ser Pro Ala Ser Thr Gln Thr Gly Leu Pro Ala Thr Leu Thr Thr Ala 725 730 735		
Asp Leu Gly Glu Glu Ser Thr Thr Phe Pro Ser Ser Ser Gly Ser Thr 740 745 750		
Gly Thr Thr Leu Ser Pro Ala Arg Ser Thr Thr Ser Gly Leu Val Gly 755 760 765		
Glu Ser Thr Pro Ser Arg Leu Ser Pro Ser Ser Thr Glu Thr Thr Thr 770 775 780		
Leu Pro Gly Ser Pro Thr Thr Pro Ser Leu Ser Glu Lys Ser Thr Thr 785 790 795 800		
Phe Tyr Thr Ser Pro Arg Ser Pro Asp Ala Thr Leu Ser Pro Ala Thr 805 810 815		
Thr Thr Ser Ser Gly Val Ser Glu Glu Ser Ser Thr Ser His Ser Gln 820 825 830		
Pro Gly Ser Thr His Thr Thr Ala Phe Pro Asp Ser Thr Thr Thr Ser 835 840 845		
Gly Leu Ser Gln Glu Pro Lys Thr Ser His Ser Ser Gln Gly Ser Thr 850 855 860		
Glu Ala Thr Leu Ser Pro Gly Ser Thr Thr Ala Ser Ser Leu Gly Gln 865 870 875 880		
Gln Ser Thr Thr Phe His Ser Ser Pro Gly Asp Thr Glu Thr Thr Leu 885 890 895		
Leu Pro Asp Asp Thr Ile Thr Ser Gly Leu Val Glu Ala Ser Thr Pro 900 905 910		
Thr His Ser Ser Thr Gly Ser Leu His Thr Thr Leu Thr Pro Ala Ser 915 920 925		
Ser Thr Ser Ala Gly Leu Gln Glu Glu Ser Thr Thr Phe Gln Ser Trp 930 935 940		
Pro Ser Ser Ser Asp Thr Thr Pro Ser Pro Pro Gly Pro 945 950 955		

<210> 1066

<211> 914

<212> PRT

<213> Homo sapiens

<400> 1066

Met Gly Pro Phe Lys Ser Ser Val Phe Ile Leu Ile Leu His Leu Leu

5					10					15					
Glu	Gly	Ala	Leu	Ser	Asn	Ser	Leu	Ile	Gln	Leu	Asn	Asn	Asn	Gly	Tyr
			20				25						30		
Glu	Gly	Ile	Val	Val	Ala	Ile	Asp	Pro	Asn	Val	Pro	Glu	Asp	Glu	Thr
			35				40						45		
Leu	Ile	Gln	Gln	Ile	Lys	Asp	Met	Val	Thr	Gln	Ala	Ser	Leu	Tyr	Leu
			50				55						60		
Phe	Glu	Ala	Thr	Gly	Lys	Arg	Phe	Tyr	Phe	Lys	Asn	Val	Ala	Ile	Leu
			65				70						75		
Ile	Pro	Glu	Thr	Trp	Lys	Thr	Lys	Ala	Asp	Tyr	Val	Arg	Pro	Lys	Leu
						85						90			
Glu	Thr	Tyr	Lys	Asn	Ala	Asp	Val	Leu	Val	Ala	Glu	Ser	Thr	Pro	Pro
						100						105			
Gly	Asn	Asp	Glu	Pro	Tyr	Thr	Glu	Gln	Met	Gly	Asn	Cys	Gly	Glu	Lys
						115						120			
Gly	Glu	Arg	Ile	His	Leu	Thr	Pro	Asp	Phe	Ile	Ala	Gly	Lys	Lys	Leu
						130						135			
Ala	Glu	Tyr	Gly	Pro	Gln	Gly	Lys	Ala	Phe	Val	His	Glu	Trp	Ala	His
						145						150			
Leu	Arg	Trp	Gly	Val	Phe	Asp	Glu	Tyr	Asn	Asn	Asp	Glu	Lys	Phe	Tyr
						165						170			
Leu	Ser	Asn	Gly	Arg	Ile	Gln	Ala	Val	Arg	Cys	Ser	Ala	Gly	Ile	Thr
						180						185			
Gly	Thr	Asn	Val	Val	Lys	Lys	Cys	Gln	Gly	Gly	Ser	Cys	Tyr	Thr	Lys
						195						200			
Arg	Cys	Thr	Phe	Asn	Lys	Val	Thr	Gly	Leu	Tyr	Glu	Lys	Gly	Cys	Glu
						210						215			
Phe	Val	Leu	Gln	Ser	Arg	Gln	Thr	Glu	Lys	Ala	Ser	Ile	Met	Phe	Ala
						225						230			
Gln	His	Val	Asp	Ser	Ile	Val	Glu	Phe	Cys	Thr	Glu	Gln	Asn	His	Asn
						245						250			
Lys	Glu	Ala	Pro	Asn	Lys	Gln	Asn	Gln	Lys	Cys	Asn	Leu	Arg	Ser	Thr
						260						265			
Trp	Glu	Val	Ile	Arg	Asp	Ser	Glu	Asp	Phe	Lys	Lys	Thr	Thr	Pro	Met
						275						280			
Thr	Thr	Gln	Pro	Pro	Asn	Pro	Thr	Phe	Ser	Leu	Leu	Gln	Ile	Gly	Gln
						290						295			
Arg	Ile	Val	Cys	Leu	Val	Leu	Asp	Lys	Ser	Gly	Ser	Met	Ala	Thr	Gly
						305						310			

Asn Arg Leu Asn Arg Leu Asn Gln Ala Gly Gln Leu Phe Leu Leu Gln
 325 330 335
 Thr Val Glu Leu Gly Ser Trp Val Gly Met Val Thr Phe Asp Ser Ala
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 Ala His Val Gln Ser Glu Leu Ile Gln Ile Asn Ser Gly Ser Asp Arg
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 Asp Thr Leu Ala Lys Arg Leu Pro Ala Ala Ala Ser Gly Gly Thr Ser
 370 375 380
 Ile Cys Ser Gly Leu Arg Ser Ala Phe Thr Val Ile Arg Lys Lys Tyr
 385 390 395 400
 Pro Thr Asp Gly Ser Glu Ile Val Leu Leu Thr Asp Gly Glu Asp Asn
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 Thr Ile Ser Gly Cys Phe Asn Glu Val Lys Gln Ser Gly Ala Ile Ile
 420 425 430
 His Thr Val Ala Leu Gly Pro Ser Ala Ala Gln Glu Leu Glu Glu Leu
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 Ser Lys Met Thr Gly Gly Leu Gln Thr Tyr Ala Ser Asp Gln Val Gln
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 Asn Asn Gly Leu Ile Asp Ala Phe Gly Ala Leu Ser Ser Gly Asn Gly
 465 470 475 480
 Ala Val Ser Gln Arg Ser Ile Gln Leu Glu Ser Lys Gly Leu Thr Leu
 485 490 495
 Gln Asn Ser Gln Trp Met Asn Gly Thr Val Ile Val Asp Ser Thr Val
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 Gly Lys Asp Thr Leu Phe Leu Ile Thr Trp Thr Thr Gln Pro Pro Gln
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 Ile Leu Leu Trp Asp Pro Ser Gly Gln Lys Gln Gly Gly Phe Val Val
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 Asp Lys Asn Thr Lys Met Ala Tyr Leu Gln Ile Pro Gly Ile Ala Lys
 545 550 555 560
 Val Gly Thr Trp Lys Tyr Ser Leu Gln Ala Ser Ser Gln Thr Leu Thr
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 Leu Thr Val Thr Ser Arg Ala Ser Asn Ala Thr Leu Pro Pro Ile Thr
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Ser Val Thr Ala Leu Ile Glu Ser Val Asn Gly Lys Thr Val Thr Leu
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 Lys Val Asp Leu Lys Ser Glu Ile Ser Asn Ile Ala Arg Val Ser Leu
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 Phe Ile Pro Pro Gln Thr Pro Pro Glu Thr Pro Ser Pro Asp Glu Thr
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 Ser Ala Pro Cys Pro Asn Ile His Ile Asn Ser Thr Ile Pro Gly Ile
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<211> 585

<212> PRT

<213> Homo sapiens

<400> 1067

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Ala Ser Thr Thr Thr Ser Gly Leu Ser Gln Glu Ser Thr Thr Phe His
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Ser Lys Pro Gly Ser Thr Glu Thr Thr Leu Ser Pro Gly Ser Ile Thr
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Thr Ser Ser Phe Ala Gln Glu Phe Thr Thr Pro His Ser Gln Pro Gly
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Ser Ala Leu Ser Thr Val Ser Pro Ala Ser Thr Thr Val Pro Gly Leu
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Ser Glu Glu Ser Thr Thr Phe Tyr Ser Ser Pro Gly Ser Thr Glu Thr
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Thr Ala Phe Ser His Ser Asn Thr Met Ser Ile His Ser Gln Gln Ser
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Thr Pro Phe Pro Asp Ser Pro Gly Phe Thr His Thr Val Leu Pro Ala
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Ser Ser Asp Ala Thr Gly Thr Thr Pro Leu Pro Ala Arg Ser Thr Ala
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Ser Asp Leu Val Gly Glu Pro Thr Thr Phe Tyr Ile Ser Pro Ser Pro
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Thr Tyr Thr Thr Leu Phe Pro Ala Ser Ser Ser Thr Ser Gly Leu Thr
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Glu Glu Ser Thr Thr Phe His Thr Ser Pro Ser Phe Thr Ser Thr Ile
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Val Ser Thr Glu Ser Leu Glu Thr Leu Ala Pro Gly Leu Cys Gln Glu
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Gly Gln Ile Trp Asn Gly Lys Gln Cys Val Cys Pro Gln Gly Tyr Val
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Gly Tyr Gln Cys Leu Ser Pro Leu Glu Ser Phe Pro Val Glu Thr Pro
 260 265 270

Glu Lys Leu Asn Ala Thr Leu Gly Met Thr Val Lys Val Thr Tyr Arg

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Ile	Met	Asn	Glu	Thr	Arg	Thr	Thr	Leu	Leu	Asp	Pro	Asp	Ser	Cys	Arg		
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Lys	Ala	Ile	Leu	Cys	Tyr	Ser	Glu	Glu	Asp	Thr	Phe	Val	Asp	Ser	Ser		
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Glu	Gly	Tyr	Thr	Gln	Phe	Tyr	Tyr	Val	Asp	Val	Leu	Asp	Gly	Lys	Leu		
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Ala	Cys	Val	Asn	Lys	Cys	Thr	Lys	Gly	Thr	Lys	Ser	Gln	Met	Asn	Cys		
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Ile	Ala	Lys	Ser	Leu	Val	Tyr	Gly	Ile	Val	Gly	Ala	Val	Met	Ala	Val		
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Leu	Leu	Leu	Ala	Leu	Ile	Ile	Leu	Ile	Ile	Leu	Phe	Ser	Leu	Ser	Gln		
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Arg	Lys	Arg	His	Arg	Glu	Gln	Tyr	Asp	Val	Pro	Gln	Glu	Trp	Arg	Lys		
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Glu	Gly	Thr	Pro	Gly	Ile	Phe	Gln	Lys	Thr	Ala	Ile	Trp	Glu	Asp	Gln		
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Arg	Pro	Thr	Leu	Glu	Thr	Val	Asp	Ser	Gly	Thr	Glu	Leu	His	Ile	Gln		
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<210> 1068

<211> 5179

<212> PRT

<213> Homo sapiens

<400> 1068

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Gly Arg Asn Val Cys Ser Thr Trp Gly Asn Phe His Tyr Lys Thr Phe
      35                      40                      45

Asp Gly Asp Val Phe Arg Phe Pro Gly Leu Cys Asp Tyr Asn Phe Ala
      50                      55                      60

Ser Asp Cys Arg Gly Ser Tyr Lys Glu Phe Ala Val His Leu Lys Arg
      65                      70                      75                      80

Gly Pro Gly Gln Ala Glu Ala Pro Ala Gly Val Glu Ser Ile Leu Leu
      85                      90                      95

Thr Ile Lys Asp Asp Thr Ile Tyr Leu Thr Arg His Leu Ala Val Leu
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Asn Gly Ala Val Val Ser Thr Pro His Tyr Ser Pro Gly Leu Leu Ile
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Glu Lys Ser Asp Ala Tyr Thr Lys Val Tyr Ser Arg Ala Gly Leu Thr
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Leu Met Trp Asn Arg Glu Asp Ala Leu Met Leu Glu Leu Asp Thr Lys
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Phe Arg Asn His Thr Cys Gly Leu Cys Gly Asp Tyr Asn Gly Leu Gln
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Ser Tyr Ser Glu Phe Leu Ser Asp Gly Val Leu Phe Ser Pro Leu Glu
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Phe Gly Asn Met Gln Lys Ile Asn Gln Pro Asp Val Val Cys Glu Asp
      195                     200                     205

Pro Glu Glu Glu Val Ala Pro Ala Ser Cys Ser Glu His Arg Ala Glu
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Cys Glu Arg Leu Leu Thr Ala Glu Ala Phe Ala Asp Cys Gln Asp Leu
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Val Pro Leu Glu Pro Tyr Leu Arg Ala Cys Gln Gln Asp Arg Cys Arg
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Cys Pro Gly Gly Asp Thr Cys Val Cys Ser Thr Val Ala Glu Phe Ser
      260                     265                     270

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Arg Gln Cys Ser His Ala Gly Gly Arg Pro Gly Asn Trp Arg Thr Ala
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 Thr Leu Cys Pro Lys Thr Cys Pro Gly Asn Leu Val Tyr Leu Glu Ser
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 305 310 315 320
 Cys Glu Glu His Arg Met Asp Gly Cys Phe Cys Pro Glu Gly Thr Val
 325 330 335
 Tyr Asp Asp Ile Gly Asp Ser Gly Cys Val Pro Val Ser Gln Cys His
 340 345 350
 Cys Arg Leu His Gly His Leu Tyr Thr Pro Gly Gln Glu Ile Thr Asn
 355 360 365
 Asp Cys Glu Gln Cys Val Cys Asn Ala Gly Arg Trp Val Cys Lys Asp
 370 375 380
 Leu Pro Cys Pro Gly Thr Cys Ala Leu Glu Gly Gly Ser His Ile Thr
 385 390 395 400
 Thr Phe Asp Gly Lys Thr Tyr Thr Phe His Gly Asp Cys Tyr Tyr Val
 405 410 415
 Leu Ala Lys Gly Asp His Asn Asp Ser Tyr Ala Leu Leu Gly Glu Leu
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 Ala Pro Cys Gly Ser Thr Asp Lys Gln Thr Cys Leu Lys Thr Val Val
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 485 490 495
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 Phe Val Thr Leu Asp Gln Ala Ser Gln Gly Gln Val Gln Gly Leu Cys
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 Gly Asn Phe Asn Gly Leu Glu Gly Asp Asp Phe Lys Thr Ala Ser Gly
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 Leu Val Glu Ala Thr Gly Ala Gly Phe Ala Asn Thr Trp Lys Ala Gln
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 Ser Thr Cys His Asp Lys Leu Asp Trp Leu Asp Asp Pro Cys Ser Leu
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Asn Ile Glu Ser Ala Asn Tyr Ala Glu His Trp Cys Ser Leu Leu Lys
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Lys Thr Glu Thr Pro Phe Gly Arg Cys His Ser Ala Val Asp Pro Ala
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Glu Tyr Tyr Lys Arg Cys Lys Tyr Asp Thr Cys Asn Cys Gln Asn Asn
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Glu Asp Cys Leu Cys Ala Ala Leu Ser Ser Tyr Ala Arg Ala Cys Thr
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Ala Lys Gly Val Met Leu Trp Gly Trp Arg Glu His Val Cys Asn Lys
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Asp Val Gly Ser Cys Pro Asn Ser Gln Val Phe Leu Tyr Asn Leu Thr
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Thr Cys Gln Gln Thr Cys Arg Ser Leu Ser Glu Ala Asp Ser His Cys
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Leu Glu Gly Phe Ala Pro Val Asp Gly Cys Gly Cys Pro Asp His Thr
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Gln Thr Leu Ala Ala Gly Tyr Tyr His Thr Glu Cys Val Ser Gly Cys
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Val Cys Pro Asp Gly Leu Met Asp Asp Gly Arg Gly Gly Cys Val Val
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Glu Lys Glu Cys Pro Cys Val His Asn Asn Asp Leu Tyr Ser Ser Gly
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Ala Lys Ile Lys Val Asp Cys Asn Thr Cys Thr Cys Lys Arg Gly Arg
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Trp Val Cys Thr Gln Ala Val Cys His Gly Thr Cys Ser Ile Tyr Gly
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Ser Gly His Tyr Ile Thr Phe Asp Gly Lys Tyr Tyr Asp Phe Asp Gly
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His Cys Ser Tyr Val Ala Val Gln Asp Tyr Cys Gly Gln Asn Ser Ser

320

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 Val Glu Lys His Phe Asn Ile Cys Ser Ile Thr Thr Arg Pro Ser Thr
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 Pro Ile Thr Thr Thr Thr Thr Val Thr Pro Thr Pro Thr Pro Thr Gly
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 Pro Thr Pro Thr Pro Thr Gly Thr Gln Thr Pro Thr Thr Thr Pro Ile

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Pro	Thr	Thr	Thr	Pro	Ile	Thr	Thr	Thr	Thr	Val	Thr	Pro	Thr	Pro		
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3010					3015					3020						
Thr	Thr	Pro	Ile	Thr	Thr	Thr	Thr	Thr	Val	Thr	Pro	Thr	Pro	Thr	Pro	
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Thr	Gly	Thr	Gln	Thr	Pro	Thr	Thr	Thr	Pro	Ile	Thr	Thr	Thr	Thr	Thr	
3045					3050					3055						

Val Thr Pro Thr Pro Thr Pro Thr Gly Thr Gln Thr Pro Thr Thr Thr
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 Pro Ile Thr Thr Thr Thr Thr Val Thr Pro Thr Pro Thr Pro Thr Gly
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 Pro Thr Thr Thr Pro Ile Thr Thr Thr Thr Thr Val Thr Pro Thr Pro
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328

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 Pro Ile Thr Thr Thr Thr Thr Val Thr Pro Thr Pro Thr Pro Thr Gly
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 Gly Thr Gln Thr Pro Thr Thr Thr Pro Ile Thr Thr Thr Thr Thr Val
 3620 3625 3630
 Thr Pro Thr Pro Thr Pro Thr Gly Thr Gln Thr Pro Thr Thr Thr Pro
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 Ile Thr Thr Thr Thr Thr Val Thr Pro Thr Pro Thr Pro Thr Gly Thr
 3650 3655 3660
 Gln Thr Pro Thr Thr Thr Pro Ile Thr Thr Thr Thr Thr Val Thr Pro

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Pro Thr Thr Thr	Pro Ile Thr Thr	Thr Thr Val Thr	Pro Thr Pro
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3730	3735	3740	
Thr Thr Val Thr	Pro Thr Pro Thr	Gly Thr Gln Thr	Pro Thr
3745	3750	3755	3760
Thr Thr Pro Ile	Thr Thr Thr Thr	Val Thr Pro Thr	Pro Thr Pro
3765	3770	3775	
Thr Gly Thr Gln	Thr Pro Thr Thr	Thr Pro Ile Thr	Thr Thr Thr
3780	3785	3790	
Val Thr Pro Thr	Pro Thr Pro Thr	Gly Thr Gln Thr	Pro Thr Thr
3795	3800	3805	
Pro Ile Thr Thr	Thr Thr Thr Val	Thr Pro Thr Pro	Thr Thr Gly
3810	3815	3820	
Thr Gln Thr Pro	Thr Thr Thr Pro	Ile Thr Thr Thr	Thr Val Thr
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Pro Thr Pro Thr	Pro Thr Gly Thr	Gln Thr Pro Thr	Thr Thr Pro
3845	3850	3855	
Thr Thr Thr Thr	Thr Val Thr Pro	Thr Pro Thr Pro	Thr Gly Thr
3860	3865	3870	
Thr Pro Thr Thr	Thr Pro Ile Thr	Thr Thr Thr Thr	Val Thr Pro
3875	3880	3885	
Pro Thr Pro Thr	Gly Thr Gln Thr	Pro Thr Thr Thr	Pro Ile Thr
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Thr Thr Thr Val	Thr Pro Thr Pro	Thr Pro Thr Gly	Thr Gln Thr
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Pro Thr Gly Thr	Gln Thr Pro Thr	Thr Thr Pro Ile	Thr Thr Thr
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3955	3960	3965	
Thr Pro Ile Thr	Thr Thr Thr Thr	Thr Val Thr Pro	Thr Pro Thr
3970	3975	3980	

Gly Thr Gln Thr Pro Thr Thr Thr Pro Ile Thr Thr Thr Thr Thr Val
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 Pro Ile Thr Thr Thr Thr Thr Val Thr Pro Thr Pro Thr Pro Thr Gly
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Gly Ser Ser Ser Ala Pro Thr Pro Ser Thr Val Gln Thr Thr Thr Thr
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 Ser Ala Trp Thr Pro Thr Pro Thr Pro Leu Ser Thr Pro Ser Ile Ile
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 Leu Glu Phe Tyr Asn Trp Ser Cys Pro Ser Thr Pro Ser Pro Thr Pro
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 Ser Lys Pro Thr Pro Gly Thr Lys Pro Pro Glu Cys Pro Asp Phe Asp
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 Pro Pro Arg Gln Glu Asn Glu Thr Trp Trp Leu Cys Asp Cys Phe Met
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 Ala Thr Cys Lys Tyr Asn Asn Thr Val Glu Ile Val Lys Val Glu Cys
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 Glu Pro Pro Pro Met Pro Thr Cys Ser Asn Gly Leu Gln Pro Val Arg
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 Val Glu Asp Pro Asp Gly Cys Cys Trp His Trp Glu Cys Asp Cys Tyr
 4465 4470 4475 4480
 Cys Thr Gly Trp Gly Asp Pro His Tyr Val Thr Phe Asp Gly Leu Tyr
 4485 4490 4495
 Tyr Ser Tyr Gln Gly Asn Cys Thr Tyr Val Leu Val Glu Glu Ile Ser
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 Glu Leu Gly Val Leu Val Ser Tyr Asn Gly Leu Ser Phe Ser Val Arg

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Cys Thr Asn Thr Thr Ser Asp Asp Cys Ile Leu Pro Ser Gly Glu Ile		
4625	4630	4635 4640
Val Ser Asn Cys Glu Ala Ala Ala Asp Gln Trp Leu Val Asn Asp Pro		
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Ser Lys Pro His Cys Pro His Ser Ser Ser Thr Thr Lys Arg Pro Ala		
	4660	4665 4670
Val Thr Val Pro Gly Gly Gly Lys Thr Thr Pro His Lys Asp Cys Thr		
	4675	4680 4685
Pro Ser Pro Leu Cys Gln Leu Ile Lys Asp Ser Leu Phe Ala Gln Cys		
	4690	4695 4700
His Ala Leu Val Pro Pro Gln His Tyr Tyr Asp Ala Cys Val Phe Asp		
4705	4710	4715 4720
Ser Cys Phe Met Pro Gly Ser Ser Leu Glu Cys Ala Ser Leu Gln Ala		
	4725	4730 4735
Tyr Ala Ala Leu Cys Ala Gln Gln Asn Ile Cys Leu Asp Trp Arg Asn		
	4740	4745 4750
His Thr His Gly Ala Cys Leu Val Glu Cys Pro Ser His Arg Glu Tyr		
	4755	4760 4765
Gln Ala Cys Gly Pro Ala Glu Glu Pro Thr Cys Lys Ser Ser Ser Ser		
	4770	4775 4780
Gln Gln Asn Asn Thr Val Leu Val Glu Gly Cys Phe Cys Pro Glu Gly		
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Thr Met Asn Tyr Ala Pro Gly Phe Asp Val Cys Val Lys Thr Cys Gly		
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Cys Val Gly Pro Asp Asn Val Pro Arg Glu Phe Gly Glu His Phe Glu		
	4820	4825 4830
Phe Asp Cys Lys Asn Cys Val Cys Leu Glu Gly Gly Ser Gly Ile Ile		
	4835	4840 4845
Cys Gln Pro Lys Arg Cys Ser Gln Lys Pro Val Thr His Cys Val Glu		
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Asp Gly Thr Tyr Leu Ala Thr Glu Val Asn Pro Ala Asp Thr Cys Cys		
4865	4870	4875 4880
Asn Ile Thr Val Cys Lys Cys Asn Thr Ser Leu Cys Lys Glu Lys Pro		
	4885	4890 4895
Ser Val Cys Pro Leu Gly Phe Glu Val Lys Ser Lys Met Val Pro Gly		
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 Gly Asn Ala Glu Tyr Gln Pro Gly Ser Pro Val Tyr Ser Ser Lys Cys
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 Gln Asp Cys Val Cys Thr Asp Lys Val Asp Asn Asn Thr Leu Leu Asn
 4945 4950 4955 4960
 Val Ile Ala Cys Thr His Val Pro Cys Asn Thr Ser Cys Ser Pro Gly
 4965 4970 4975
 Phe Glu Leu Met Glu Ala Pro Gly Glu Cys Cys Lys Lys Cys Glu Gln
 4980 4985 4990
 Thr His Cys Ile Ile Lys Arg Pro Asp Asn Gln His Val Ile Leu Lys
 4995 5000 5005
 Pro Gly Asp Phe Lys Ser Asp Pro Lys Asn Asn Cys Thr Phe Phe Ser
 5010 5015 5020
 Cys Val Lys Ile His Asn Gln Leu Ile Ser Ser Val Ser Asn Ile Thr
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 Cys Pro Asn Phe Asp Ala Ser Ile Cys Ile Pro Gly Ser Ile Thr Phe
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 Met Pro Asn Gly Cys Cys Lys Thr Cys Thr Pro Arg Asn Glu Thr Arg
 5060 5065 5070
 Val Pro Cys Ser Thr Val Pro Val Thr Thr Glu Val Ser Tyr Ala Gly
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 Cys Thr Lys Thr Val Leu Met Asn His Cys Ser Gly Ser Cys Gly Thr
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 Phe Val Met Tyr Ser Ala Lys Ala Gln Ala Leu Asp His Ser Cys Ser
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 Cys Cys Lys Glu Glu Lys Thr Ser Gln Arg Glu Val Val Leu Ser Cys
 5125 5130 5135
 Pro Asn Gly Gly Ser Leu Thr His Thr Tyr Thr His Ile Glu Ser Cys
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<210> 1069

<211> 1173

<212> DNA

<213> Homo sapiens

334

<400> 1069

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gagtcttggg tgccaaacag atttgcagat caaggagaac ccaggagttt caaagaagcg 180
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gatatcatca tgagaccag ctgtgctcct ggatgggttt accacaagtc caattgctat 360
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cataagaagt aaagatttga agacagaagg aagaaactca ggagtaagct tctagccccc 1080
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<210> 1070

<211> 158

<212> PRT

<213> Homo sapiens

<400> 1070

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Gly Trp Phe Tyr His Lys Ser Asn Cys Tyr Gly Tyr Phe Arg Lys Leu
      35                      40                      45

Arg Asn Trp Ser Asp Ala Glu Leu Glu Cys Gln Ser Tyr Gly Asn Gly
      50                      55                      60

Ala His Leu Ala Ser Ile Leu Ser Leu Lys Glu Ala Ser Thr Ile Ala
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Glu Tyr Ile Ser Gly Tyr Gln Arg Ser Gln Pro Ile Trp Ile Gly Leu
      85                      90                      95

His Asp Pro Gln Lys Arg Gln Gln Trp Gln Trp Ile Asp Gly Ala Met
      100                      105                      110

Tyr Leu Tyr Arg Ser Trp Ser Gly Lys Ser Met Gly Gly Asn Lys His
      115                      120                      125

Cys Ala Glu Met Ser Ser Asn Asn Asn Phe Leu Thr Trp Ser Ser Asn
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Glu Cys Asn Lys Arg Gln His Phe Leu Cys Lys Tyr Arg Pro
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<210> 1071
 <211> 1114
 <212> DNA
 <213> Homo sapiens

<400> 1071

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gaagcatgcg gctgctccta ttgctgagct gcctggccaa aacaggagtc ctgggtgata 180
tcacatgag acccagctgt gctcctggat ggttttacca caagtccaat tgctatggtt 240
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agaagtaaag atttgaagac agaaggaaga aactcaggag taagcttcta gaccccttca 960
gcttctacac cttctgccc tctctccatt gcctgcaccc caccaccagc actcaactcc 1020
tgcttgcttt tcctttggcc ataggaaggt ttaccagtag aatccttgct aggttgatgt 1080
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<210> 1072
 <211> 1152
 <212> DNA
 <213> Homo sapiens

<400> 1072

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agctacatcc tcagggtagg aggaagatgg cttccagaag catgaggctg ctccattatgc 180
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gtttaaagga agccagcacc atagcagagt acataagtgg ctatcagaga agccagccga 420
tatggattgg cctgcacgac ccacagaaga ggcagcagtg gcagtggatt gatggggcca 480
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<210> 1073
 <211> 474

336

<212> DNA

<213> Homo sapiens

<400> 1073

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tacggaaacg	gagcccacct	ggcatctatc	ctgagtttaa	aggaagccag	caccatagca	240
gagtacataa	gtggctatca	gagaagccag	ccgatatgga	ttggcctgca	cgaccacag	300
aagaggcagc	agtggcagtg	gattgatggg	gccatgtatc	tgtacagatc	ctggtctggc	360
aagtccatgg	gtgggaacaa	gcactgtgct	gagatgagct	ccaataacaa	ctttttaact	420
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<210> 1074

<211> 1114

<212> DNA

<213> Homo sapiens

<400> 1074

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tcattatttc	agaggggaaa	cctagcaaac	taagagtgat	aagggcccta	ctacactggc	720
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gcttctacac	ccttctgccc	tctctccatt	gcctgcaccc	cacccagcc	actcaactcc	1020
tgcttgtttt	tcctttggcc	ataggaaggt	ttaccagtag	aatccttgct	aggttgatgt	1080
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<210> 1075

<211> 614

<212> DNA

<213> Homo sapiens

<400> 1075

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339

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341

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343

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09/649,811 28 August 2000 (28.08.2000) US

(71) Applicant (for all designated States except US): **CORIXA CORPORATION** [US/US]; Suite 200, 1124 Columbia Street, Seattle, WA 98104 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **XU, Jiangchun** [US/US]; 15805 S.E. 43rd Place, Bellevue, WA 98006 (US). **LODES, Michael, J.** [US/US]; 9223-36th Avenue S.W., Seattle, WA 98126 (US). **SECRIST, Heather** [US/US]; 3844-35th Avenue W., Seattle, WA 98199 (US). **BENSON, Darin, R.** [US/US]; 723 N. 48th Street, Seattle, WA 98103 (US). **MEAGHER, Madeleine, Joy** [US/US]; 507 N.E. 71st, #1, Seattle, WA 98115 (US). **STOLK,**

John, A. [US/US]; 7436 Northeast 144th Place, Bothell, WA 98011 (US). **KING, Gordon, E.** [US/US]; 15716 First Avenue N.W., Shoreline, WA 98177 (US). **WANG, Tongtong** [US/US]; 8049 N.E. 28th Street, Medina, WA 98039 (US). **JIANG, Yuqiu** [CN/US]; 5001 South 232nd Street, Kent, WA 98032 (US).

(74) Agents: **POTTER, Jane, E., R.**; Seed Intellectual Property Law Group PLLC, Suite 6300, 701 Fifth Avenue, Seattle, WA 98104-7092 et al. (US).

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Published:

— with international search report

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For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: COMPOUNDS FOR IMMUNOTHERAPY AND DIAGNOSIS OF COLON CANCER AND METHODS FOR THEIR USE

(57) Abstract: Compositions and methods for the therapy and diagnosis of cancer, such as colon cancer, are disclosed. Compositions may comprise one or more colon tumor proteins, immunogenic portions thereof, or polynucleotides that encode such portions. Alternatively, a therapeutic composition may comprise an antigen presenting cell that expresses a colon tumor protein, or a T cell that is specific for cells expressing such a protein. Such compositions may be used, for example, for the prevention and treatment of diseases such as colon cancer. Diagnostic methods based on detecting a colon tumor protein, or mRNA encoding such a protein, in a sample are also provided.

WO 01/49716 A3



INTERNATIONAL SEARCH REPORT

In. ational Application No
PCT/US 00/35596

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 C12N15/12 C12N15/62 C07K14/47 C07K16/14 C12Q1/68
G01N33/53 G01N33/574 A61K39/00 A61K39/395 A61P35/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 C12N C07K C12Q G01N A61K A61P

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ, SEQUENCE SEARCH

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5 929 033 A (TANG, Y.T. ET AL.) 27 July 1999 (1999-07-27)	1,2,4,5, 7-17,21, 31,40-60 6,18-39
A	abstract; figure 1 column 2, line 46 -column 4, line 14 column 4, line 62 -column 19, line 38 column 20, line 42 -column 27, line 30 column 27, line 63 -column 29, line 29 column 32 -column 37; examples 4-12 SEQ ID NOS: 1 and 2 column 37 -column 44 column 45 -column 46; claims 1-14,17,18 --- -/--	

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

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"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&" document member of the same patent family

Date of the actual completion of the international search

9 August 2001

Date of mailing of the international search report

30. 10. 01

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax: (+31-70) 340-3016

Authorized officer

Fuchs, U

INTERNATIONAL SEARCH REPORT

International Application No

PCT/US 00/35596

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X A	WO 99 60161 A (DIADEXUS LLC) 25 November 1999 (1999-11-25) abstract page 2, line 34 -page 11, line 30 clone ID NO: 2348122, SEQ ID NOS: 7 and 10 page 13, line 1 -page 16, line 6; table 1 page 28, line 1 -page 31, line 25; table 9 page 32 -page 33; claims 1-6 ---	1,2,4,5, 7-16, 40-60 6,17-39
X A	WO 99 63088 A (GENENTECH, INC.) 9 December 1999 (1999-12-09) abstract page 1, line 23 -page 2, line 6 PR0698 page 7, line 19 - line 29 page 63, line 33 -page 64, line 15 page 280, line 25 -page 284, line 23 page 286, line 16 - line 19 page 300, line 36 - line 37 page 317, line 24 - line 30 page 364, line 10 - line 32 page 365, line 16 -page 373, line 20 page 391 -page 392; example 19 page 488 -page 495; examples 139-145 ATCC DEP NO: 209904 page 497; table 2 page 501 -page 508; claims 1-26 page 546 -page 548; figures 37-39 ---	1,2,4,5, 7-17,58, 59 40-57,60
X A	WO 99 01020 A (HUMAN GENOME SCIENCES, INC.) 14 January 1999 (1999-01-14) abstract page 2, line 1 - line 8 gene ID NO: 13 page 22, line 15 -page 24, line 10 page 34 -page 54, line 37; table 1 page 57, line 7 - line 32 page 63, line 1 -page 70, line 5 SEQ ID NO: 23 page 129 -page 130 SEQ ID NO: 85 page 162 -page 163 page 174 -page 177; claims 1-17,19,21 --- -/--	1,4, 7-22,31, 54-60 2,5,6, 23-30, 32-53

INTERNATIONAL SEARCH REPORT

International Application No

PCT/US 00/35596

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	<p>DATABASE EMBL, HEIDELBERG, FRG [Online] 12 November 1998 (1998-11-12) LIU, W.L. ET AL.: "Homo sapiens GW112 protein (GW112) mRNA, complete cds" Database accession no. AF097021 XP002174317 the whole document</p>	<p>1,4, 7-10,12, 16,58,59</p>
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X	<p>--- DATABASE EMBL, HEIDELBERG, FRG [Online] 18 April 1997 (1997-04-18) ADAMS, M.D. ET AL.: "EST77899 Pancreas tumor III Homo sapiens cDNA 5' end similar to olfactomedin" Database accession no. AA366895 XP002174319 the whole document</p>	<p>1,4, 7-10,12, 16,58,59</p>
P,X	<p>--- WO 00 37643 A (CORIXA CORPORATION) 29 June 2000 (2000-06-29) contig ID NO: 2 the whole document</p>	<p>1,2,4-60</p>
P,X	<p>--- WO 00 73348 A (GENENTECH, INC.) 7 December 2000 (2000-12-07) abstract page 1, line 1 -page 6, line 37 PRO698 page 7, line 18 - line 21 page 47, line 1 -page 70, line 27 page 79 -page 81; example 8 page 95 -page 106; examples 26-33 page 107 -page 122; example 36; table 7 page 124 -page 130; claims 1-40 page 139 -page 140; figures 9,10 --- -/--</p>	<p>1,2,4,5, 7-17,21, 31,40-60</p>

INTERNATIONAL SEARCH REPORT

International Application No

PCT/US 00/35596

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
P,X	<p>WO 00 21991 A (GENETICS INSTITUTE, INC.) 20 April 2000 (2000-04-20)</p> <p>abstract SEQ ID NO: 463 clone ID NO: IJ1193 page 3, line 1 -page 104, line 17; table 2 page 121, line 1 -page 127, line 11 page 130; table 3 page 135 -page 200; claims 1-8 figure P123</p> <p>---</p>	1,2,4,5, 7-17,58, 59
P,X	<p>WO 00 55350 A (HUMAN GENOME SCIENCES, INC.) 21 September 2000 (2000-09-21)</p> <p>abstract page 2, line 17 -page 11, line 7 SEQ ID NO: 445 page 70; table 1 page 119, line 1 -page 124, line 2 contig ID NO: 840608 page 208; table 3 page 241, line 1 -page 255, line 32 page 284, line 1 -page 372, line 4 page 375, line 6 -page 381, line 11 page 415, line 24 -page 421, line 22 page 423, line 29 -page 432, line 13 page 602; claims 1-17,19,21 SEQ ID NO: 445 figures P375-P377 SEQ ID NO: 1287 figures P1319-P1322</p> <p>---</p>	1,4, 7-22,31, 54-60
E	<p>WO 01 42285 A (INCYTE GENOMICS, INC.) 14 June 2001 (2001-06-14)</p> <p>abstract page 4, line 33 -page 9, line 32 page 23, line 29 -page 33, line 31 page 35, line 32 -page 55, line 8 SEQ ID NO: 17 page 78; table 2 SEQ ID NO: 38 page 83; table 3 page 89 -page 91; claims 1-17,23,24 page 108 -page 110 page 129 -page 130</p> <p>---</p> <p style="text-align: center;">-/--</p>	1,2,4,5, 7-17,21, 31,40-60

INTERNATIONAL SEARCH REPORT

Int ernational Application No

PCT/US 00/35596

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
E	<p>US 6 183 968 B1 (BANDMAN, O. ET AL.) 6 February 2001 (2001-02-06)</p> <p>abstract column 1, line 54 -column 2, line 35 column 3, line 61 -column 12, line 58 SEQ ID NO: 127 column 21 -column 22; table 1 column 191 -column 194 column 205 -column 206; claims 1,3,5-7 ---</p>	<p>1,2,4,5, 7-10, 12-16, 48,50, 51,53, 58-60</p>
A	<p>WO 98 53319 A (JOHNS HOPKINS UNIVERSITY) 26 November 1998 (1998-11-26) the whole document ---</p>	1,2,4-60
A	<p>SJÖGREN, H.O.: "Therapeutic immunization against cancer antigens using genetically engineered cells" IMMUNOTECHNOLOGY, vol. 3, no. 3, October 1997 (1997-10), pages 161-172, XP004097000 the whole document ---</p>	23-31, 35-39
A	<p>EP 0 317 141 A (BECTON DICKINSON AND COMPANY) 24 May 1989 (1989-05-24) the whole document -----</p>	32-34

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US 00/35596

Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☒ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

Although claims 21, 22, 29-31, 34, 37-39 are directed to a method of treatment of the human/animal body, the search has been carried out and based on the alleged effects of the compound/composition.
2. ☐ Claims Nos.:
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☒ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

1,2,4-60 partially

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. Claims: 1, 2, 4-60 partially

Invention 1

An isolated polypeptide comprising at least an immunogenic portion of a colon tumor protein wherein the tumor protein comprises an amino acid sequence being encoded by the polynucleotide sequence SEQ ID NO: 2, variants of said polypeptide, fusion proteins comprising said polypeptide, polynucleotides or oligonucleotides derived from said polynucleotide, antibodies or fragments thereof binding to said polypeptide, diagnostic kits comprising said oligonucleotides or antibodies, pharmaceutical compositions and vaccines comprising said products or comprising antigen-presenting cells expressing said polypeptide and their use in methods for inhibiting, monitoring or diagnosing the development of a colon cancer, for removing tumor cells from a sample or for expanding and / or stimulating T-cells;

2. Claims: 1, 2, 4-60 partially

Invention 2

idem as subject 1 but limited to SEQ ID NO: 8;

3. - 73. Claims: 1, 2, 4-60 partially

Inventions 3-73

idem as subject 1 but limited to SEQ ID NOS: 15-184 as described in claim 1;

74. Claims: 1-60 partially

Invention 74

idem as subject 1 but limited to SEQ ID NO: 189 and an isolated polypeptide comprising SEQ ID NO: 200;

75. - 659. Claims: 1, 2, 4-60 partially

Inventions 75-659

idem as subject 1 but limited to SEQ ID NOS: 191-1081 as described in claim 1;

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

660. - 666. Claims: 3 partially

Inventions 660-666

isolated polypeptides comprising SEQ ID NOS: 198-204;

667. - 1072. Claims: 25-53 partially

Inventions 667-1072

a vaccine comprising antigen-presenting cells expressing a polypeptide comprising at least an immunogenic portion of a colon tumor protein wherein the tumor protein comprises an amino acid sequence being encoded by the polynucleotide sequences SEQ ID NOS: 1-121, 123-197, 205-630, 632-684, 686, 690, 691, 694-1081 (in so far as not being mentioned in claim 1) and the use of said polypeptides, polynucleotides and antigen-presenting cells in methods for inhibiting, monitoring or diagnosing the development of a colon cancer, for removing tumor cells from a sample or for expanding and / or stimulating T-cells.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/US 00/35596

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